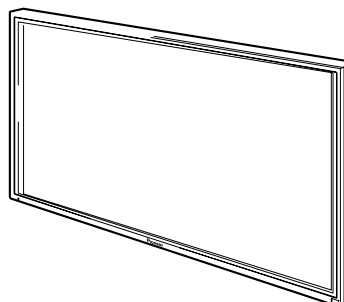


Service Manual



PRO-1000HDI

ORDER NO.
ARP3187

PLASMA DISPLAY

PRO-1000HDI

THIS MANUAL IS APPLICABLE TO THE FOLLOWING MODEL(S) AND TYPE(S).

Model	Type	Power Requirement	Remarks
PRO-1000HDI	LUCXC	AC120V	

This service manual should be used together with the following manual(s).

Model No.	Order No.	Remarks
PDP-503CMX/ LUCB	ARP3150	SAFETY INFORMATION, EXPLODED VIEWS AND PARTS LIST, BLOCK DIAGRAM, PCB PARTS LIST, ADJUSTMENT, IC INFORMATION etc.
	ARP3152	SCHEMATIC DIAGRAM and PCB CONNECTION DIAGRAM

- Parts of the exploded views are all mentioned in this manual.
- The electrical parts are mentioned by contrast table in this manual.
(Refer to "3. Contrast of miscellaneous parts.")



For details, refer to "Important symbols for good services".

SAFETY INFORMATION



This service manual is intended for qualified service technicians ; it is not meant for the casual do-it-yourselfer. Qualified technicians have the necessary test equipment and tools, and have been trained to properly and safely repair complex products such as those covered by this manual. Improperly performed repairs can adversely affect the safety and reliability of the product and may void the warranty. If you are not qualified to perform the repair of this product properly and safely, you should not risk trying to do so and refer the repair to a qualified service technician.

WARNING

This product contains lead in solder and certain electrical parts contain chemicals which are known to the state of California to cause cancer, birth defects or other reproductive harm.

Health & Safety Code Section 25249.6 - Proposition 65

NOTICE

(FOR CANADIAN MODEL ONLY)

Fuse symbols (fast operating fuse) and/or (slow operating fuse) on PCB indicate that replacement parts must be of identical designation.

REMARQUE

(POUR MODÈLE CANADIEN SEULEMENT)

Les symboles de fusible (fusible de type rapide) et/ou (fusible de type lent) sur CCI indiquent que les pièces de remplacement doivent avoir la même désignation.

SAFETY PRECAUTIONS

NOTICE : Comply with all cautions and safety related notes located on or inside the cabinet and on the chassis.

The following precautions should be observed :

- When service is required, even though the PDP UNIT an isolation transformer should be inserted between the power line and the set in safety before any service is performed.
- When replacing a chassis in the set, all the protective devices must be put back in place, such as barriers, nonmetallic knobs, adjustment and compartment covershields, isolation resistor-capacitor, etc.
- When service is required, observe the original lead dress. Extra precaution should be taken to assure correct lead dress in the high voltage circuitry area.
- Always use the manufacture's replacement components. Especially critical components as indicated on the circuit diagram should not be replaced by other manufacture's. Furthermore where a short circuit has occurred, replace those components that indicate evidence of overheating.
- Before returning a serviced set to the customer, the service technician must thoroughly test the unit to be certain that it is completely safe to operate without danger of electrical shock, and be sure that no protective device built into the set by the manufacture has become defective, or inadvertently defeated during servicing. Therefore, the following checks should be performed for the continued protection of the customer and servicetechnician.
 - Perform the following precautions against unwanted radiation and rise in internal temperature.
 - Always return the internal wiring to the original styling.
 - Attach parts (Gasket, Ferrite Core, Ground, Rear Cover, Shield Case etc.) surely after disassembly.
 - Perform the following precautions for the PDP panel.
 - When the front case is removed, make sure nothing hits the panel face, panel corner, and panel edge (so that the glass does not break).
 - Make sure that the panel vent does not break. (Check that the cover is attached.)
 - Handle the FPC connected to the panel carefully. Twisting or pulling the FPC when connecting it to the connector will cause it to peel off from the panel.
 - Pay attention to the following.
 - When the front case is removed, infrared ray is radiated and may disturb reception of the remote control unit.
 - Pay extreme caution when the front case and rear panel are removed because this may cause a high risk of disturbance to TVs and radios in the surrounding.

Leakage Current Cold Check

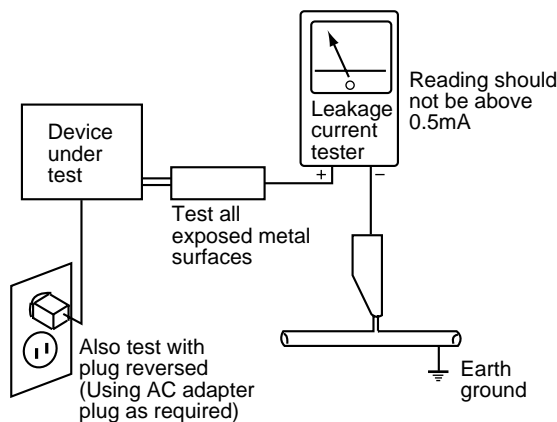
With the AC plug removed from an AC power source, place a jumper across the two plug prongs. Turn the AC power switch on. Using an insulation tester (DC 500V), connect one lead to the jumpered AC plug and touch the other lead to each exposed metal part (input/output terminals, screwheads, metal overlays, control shafts, etc.), particularly any exposed metal part having a return path to the chassis. Exposed metal parts having a return path to the chassis should have a minimum resistor reading of $0.3M\Omega$ and a maximum resistor reading of $5M\Omega$. Any resistor value below or above this range indicates an abnormality which requires corrective action. Exposed metal parts not having a return path to the chassis will indicate an open circuit.

Leakage Current Hot Check

Plug the AC line cord directly into an AC power source (do not use an isolation transformer for this check).

Turn the AC power switch on.

Using a "Leakage Current Tester (Simpson Model 229 equivalent)", measure for current from all exposed metal parts of the cabinet (input/output terminals, screwheads, metal overlays, control shaft, etc.), particularly any exposed metal part having a return path to the chassis, to a known earth ground (water pipe, conduit, etc.). Any current measured must not exceed 0.5mA.



AC Leakage Test

ANY MEASUREMENTS NOT WITHIN THE LIMITS OUTLINED ABOVE ARE INDICATIVE OF A POTENTIAL SHOCK HAZARD AND MUST BE CORRECTED BEFORE RETURNING THE SET TO THE CUSTOMER.

PRODUCT SAFETY NOTICE

Many electrical and mechanical parts in PIONEER set have special safety related characteristics. These are often not evident from visual inspection nor the protection afforded by them necessarily can be obtained by using replacement components rated for higher voltage, wattage, etc. Replacement parts which have these special safety characteristics are identified in this Service Manual.

Electrical components having such features are identified by marking with a Δ on the schematics and on the parts list in this Service Manual.

The use of a substitute replacement component which does not have the same safety characteristics as the PIONEER recommended replacement one, shown in the parts list in this Service Manual, may create shock, fire or other hazards.

Product Safety is continuously under review and new instructions are issued from time to time. For the latest information, always consult the current PIONEER Service Manual. A subscription to, or additional copies of, PIONEER Service Manual may be obtained at a nominal charge from PIONEER.

■Charged Section

The places where the commercial AC power is used without passing through the power supply transformer.

If the places are touched, there is a risk of electric shock. In addition, the measuring equipment can be damaged if it is connected to the GND of the charged section and the GND of the non-charged section while connecting the set directly to the commercial AC power supply. Therefore, be sure to connect the set via an insulated transformer and supply the current.

1. AC Power Cord
2. AC Inlet with Filter
3. Power Switch (S1)
4. Fuse (In the SW POWER SUPPLY Module)
5. STB Transformer and Converter Transformer (In the SW POWER SUPPLY Module)
6. Other primary side of the SW POWER SUPPLY Module

■High Voltage Generating Point

The places where voltage is 100V or more except for the charged places described above. If the places are touched, there is a risk of electric shock.

1. SW POWER SUPPLY Module (225V)
2. X DRIVE Assy (−300V to 225V)
3. Y DRIVE Assy (355V)
4. SCAN (A) Assy (355V)
5. SCAN (B) Assy (355V)
6. X CONNECTOR (A) Assy (−300V to 225V)
7. X CONNECTOR (B) Assy (−300V to 225V)

▨ : Part is Charged Section.

□ : Part is the High Voltage Generating Points other than the Charged Section.

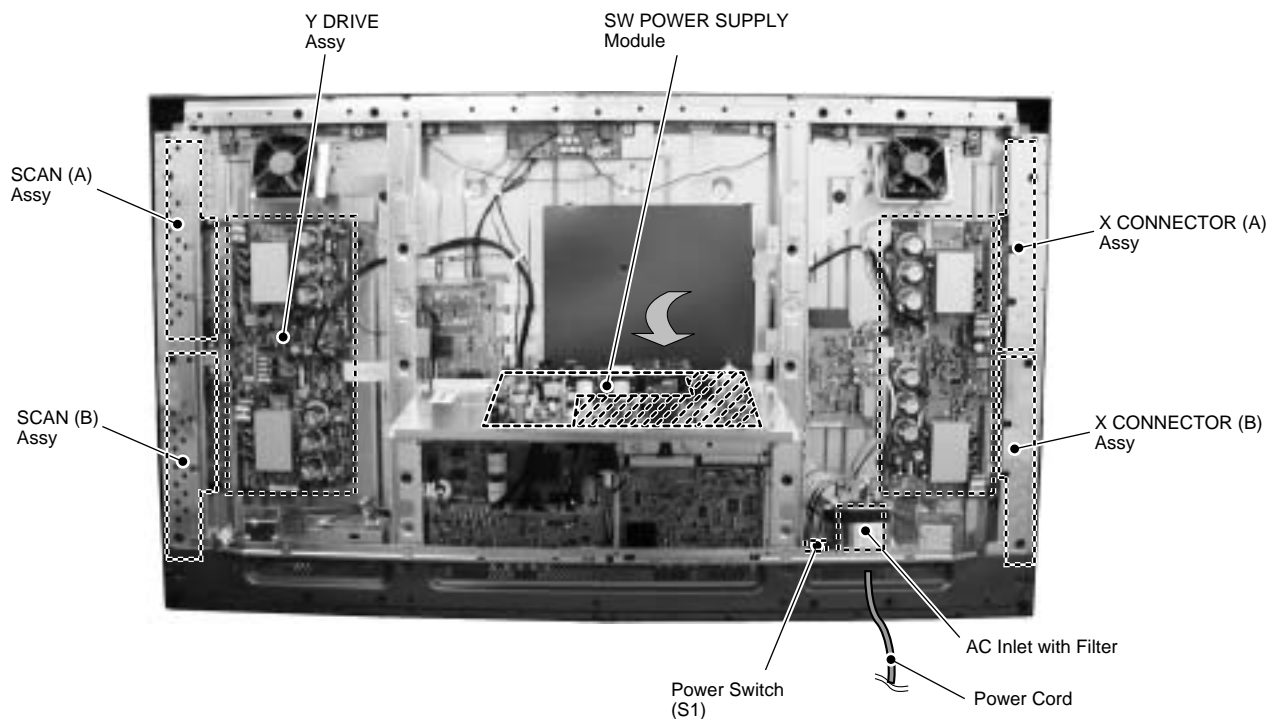


Fig.1 Charged Section and High Voltage Generating Point (Rear View)

[Important symbols for good services]

In this manual, the symbols shown-below indicate that adjustments, settings or cleaning should be made securely. When you find the procedures bearing any of the symbols, be sure to fulfill them:

1. Product safety



You should conform to the regulations governing the product (safety, radio and noise, and other regulations), and should keep the safety during servicing by following the safety instructions described in this manual.

2. Adjustments



To keep the original performances of the product, optimum adjustments or specification confirmation is indispensable. In accordance with the procedures or instructions described in this manual, adjustments should be performed.

3. Cleaning



For optical pickups, tape-deck heads, lenses and mirrors used in projection monitors, and other parts requiring cleaning, proper cleaning should be performed to restore their performances.

4. Shipping mode and shipping screws



To protect the product from damages or failures that may be caused during transit, the shipping mode should be set or the shipping screws should be installed before shipping out in accordance with this manual, if necessary.

5. Lubricants, glues, and replacement parts



Appropriately applying grease or glue can maintain the product performances. But improper lubrication or applying glue may lead to failures or troubles in the product. By following the instructions in this manual, be sure to apply the prescribed grease or glue to proper portions by the appropriate amount. For replacement parts or tools, the prescribed ones should be used.

CONTENTS

	SAFETY INFORMATION	2
	1. SPECIFICATIONS	7
A	2. EXPLODED VIEWS AND PARTS LIST	8
	2.1 PACKING	8
	2.2 UNDER LAYER SECTION (1)	10
	2.3 UNDER LAYER SECTION (2)	12
	2.4 UNDER LAYER SECTION (3)	14
	2.5 UNDER LAYER SECTION (4)	16
	2.6 UNDER LAYER SECTION (5)	17
	2.7 UNDER LAYER SECTION (6)	18
	2.8 MIDDLE LAYER SECTION (1)	19
	2.9 MIDDLE LAYER SECTION (2)	20
	2.10 MIDDLE LAYER SECTION (3)	21
	2.11 MIDDLE LAYER SECTION (4)	22
	2.12 UPPER LAYER SECTION (1)	23
B	2.13 UPPER LAYER SECTION (2)	24
	2.14 FRONT CASE SECTION (1)	26
	2.15 FRONT CASE SECTION (2)	27
	2.16 REAR SECTION	28
	2.17 PANEL CHASSIS (50) ASSY (AWU1066)	28
	3. CONTRAST OF MISCELLANEOUS PARTS	29
	4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM	30
	4.1 BLOCK DIAGRAM	30
	4.1.1 OVERALL DIAGRAM	30
	4.1.2 RGB ASSY	32
	4.1.3 VIDEO SIGNAL ROUTE	34
	4.1.4 SYNC SIGNAL ROUT	35
	4.2 WAVEFORMS	36
	4.3 SCHEMATIC DIAGRAM	42
C	4.3.1 I/O ASSY (1/2)	42
	4.3.2 I/O ASSY (2/2)	44
	4.3.3 RGB ASSY (1/10)	46
	4.3.4 RGB ASSY (2/10)	48
	4.3.5 RGB ASSY (3/10)	50
	4.3.6 RGB ASSY (4/10)	52
	4.3.7 RGB ASSY (5/10)	56
	4.3.8 RGB ASSY (6/10)	60
	4.3.9 RGB ASSY (7/10)	62
	4.3.10 RGB ASSY (8/10)	66
	4.3.11 RGB ASSY (9/10)	68
	4.3.12 RGB ASSY (10/10)	70
	4.3.13 VIDEO SLOT US2 ASSY (1/6)	72
D	4.3.14 VIDEO SLOT US2 ASSY (2/6)	74
	4.3.15 VIDEO SLOT US2 ASSY (3/6)	76
	4.3.16 VIDEO SLOT US2 ASSY (4/6)	78
	4.3.17 VIDEO SLOT US2 ASSY (5/6)	80
	4.3.18 VIDEO SLOT US2 ASSY (6/6)	82
	5. PCB CONNECTION DIAGRAM	84
	5.1 I/O ASSY	85
	5.2 RGB ASSY	86
	5.3 VIDEO SLOT US2 ASSY	90
	6. PCB PARTS LIST	92
	7. ADJUSTMENT	98
	7.1 SERVICE FACTORY MODE	98
	7.1.1 State Transition Diagram	98
	7.1.2 Table of Adjustment Items in Service Factory	101
E	7.1.3 Description of Service Factory Menu Display	103
	7.2 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED	132
	7.3 ADJUSTMENT	133
	7.3.1 VIDEO SLOT US2 ADJUSTMENT	133
	7.3.2 MAIN UNIT ADJUSTMENT	136
	7.4 COMMAND	141
	7.4.1 RS-232C COMMANDS (for adjustment)	141
	7.4.2 RS-232C COMMANDS (for setting)	142
	7.4.3 GET COMMAND	145
	8. GENERAL INFORMATION	154
	8.1 DIAGNOSIS	154
	8.1.1 CONFIGURATION OF THE PC BOARD	154
	8.1.2 DIAGNOSIS FOR SHUTDOWN AND POWER-DOWN BY LED	155
F	8.1.3 AUTOMATIC BACKUP OF DIGITAL VIDEO ASSY DATA	165
	8.1.4 PROTECTION OPERATION MODE	167
	8.1.5 DISASSEMBLY	168

1. SPECIFICATIONS

General (PRO-1000HDI)

Light emission panel 50 inch plasma display panel
 Number of pixels 1280 x 768
 Power supply AC 120 V, 60 Hz
 Rated current 3.2 A
 Standby power consumption 1 W
 External dimensions ... 1259 (W) x 776 (H) x 104.7 (D) mm
 49-9/16 (W) x 30-9/16 (H) x 4-1/8 (D) in.
 Weight 46.5 kg (102 lbs. 8 oz)

Input/output

Video

INPUT 1

(Input)

Mini D-sub 15 pin (socket connector)
 RGB signal (G ON SYNC compatible)
 RGB ... 0.7 Vp-p/75Ω/no sync.
 HD/CS, VD ... TTL level
 /positive and negative polarity
 /2.2 kΩ
 G ON SYNC
 ... 1 Vp-p/75Ω/negative sync.
 *Compatible with Microsoft's Plug & Play
 (VESA DDC1/2B)

Component video signal
 Y ... 1 Vp-p/75Ω/negative sync.
 C_B/P_B, C_R/P_R
 ... 0.525 Vp-p/75Ω
 (75% saturation level)

(Output)

Mini D-sub 15 pin (socket connector)
 75Ω/with buffer

INPUT 2

(Input)

BNC jack (x5)
 RGB signal (G ON SYNC compatible)
 RGB ... 0.7 Vp-p/75Ω/no sync.
 HD/CS, VD ... TTL level
 /positive and negative polarity/
 75Ω or 2.2 kΩ
 (impedance switch)
 G ON SYNC ...
 1 Vp-p/75Ω/negative sync.

Component video signal
 Y ... 1 Vp-p/75Ω/negative sync.
 C_B/P_B, C_R/P_R
 ... 0.525 Vp-p/75Ω
 (75% saturation level)

INPUT 3

(Input)

S terminal (Mini DIN 4 pin)
 • Y/C separate video signal (NTSC)
 Y ... 1 Vp-p/75Ω/negative sync.
 C ... 0.286 Vp-p/75Ω

INPUT 4

(Input)

BNC jack
 • Composite video signal (NTSC)
 1 Vp-p/75Ω/negative sync.

INPUT 5

(Input)

HDMI jack
 • Digital signal
 3.3 V T.M.D.S. / 50Ω

Audio

(Input)

AUDIO INPUT (for INPUT 1/2)
 Stereo mini jack
 L/R ... 500mVrms/more than 10 kΩ

AUDIO INPUT (for INPUT 3)
 Pin jack (x2)
 L/R ... 500mVrms/more than 10 kΩ

AUDIO INPUT (for INPUT 4)
 Pin jack (x2)
 L/R ... 500mVrms/more than 10 kΩ

AUDIO INPUT (for INPUT 5)
 Pin jack (x2)
 L/R ... 500mVrms/more than 10 kΩ

(Output)

AUDIO OUTPUT
 Stereo mini jack
 L/R ... 500mVrms (max)/less than 5 kΩ

SPEAKER
 L/R ... 8 – 16Ω/2W +2W (at 8Ω)

Control

RS-232C ... D-sub 9 pin (pin connector)

COMBINATION IN/OUT

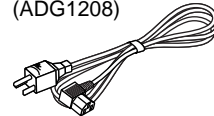
... Mini DIN 6 pin (x2)

CONTROL IN/OUT ... monaural mini jack (x2)

Due to improvements, specifications and design are subject to change without notice.

Accessories

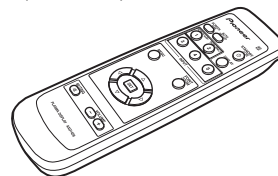
• Power Cord x1
 (ADG1208)



• Cleaning Cloth (for wiping front panel) x1
 (AED1208)

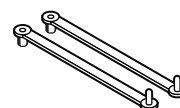


• Remote Control Unit x1
 (AXD1459)



• Binder Assy x1 (AEC1758)

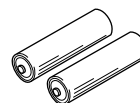
• Speed Clamp (x2)



• Bead Bands (x2)




• Dry Cell Battery (R6P, AA)



• Warranty x1
 • Operating Instructions x1

2. EXPLODED VIEWS AND PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The  mark found on some component parts indicates the importance of the safety factor of the part.

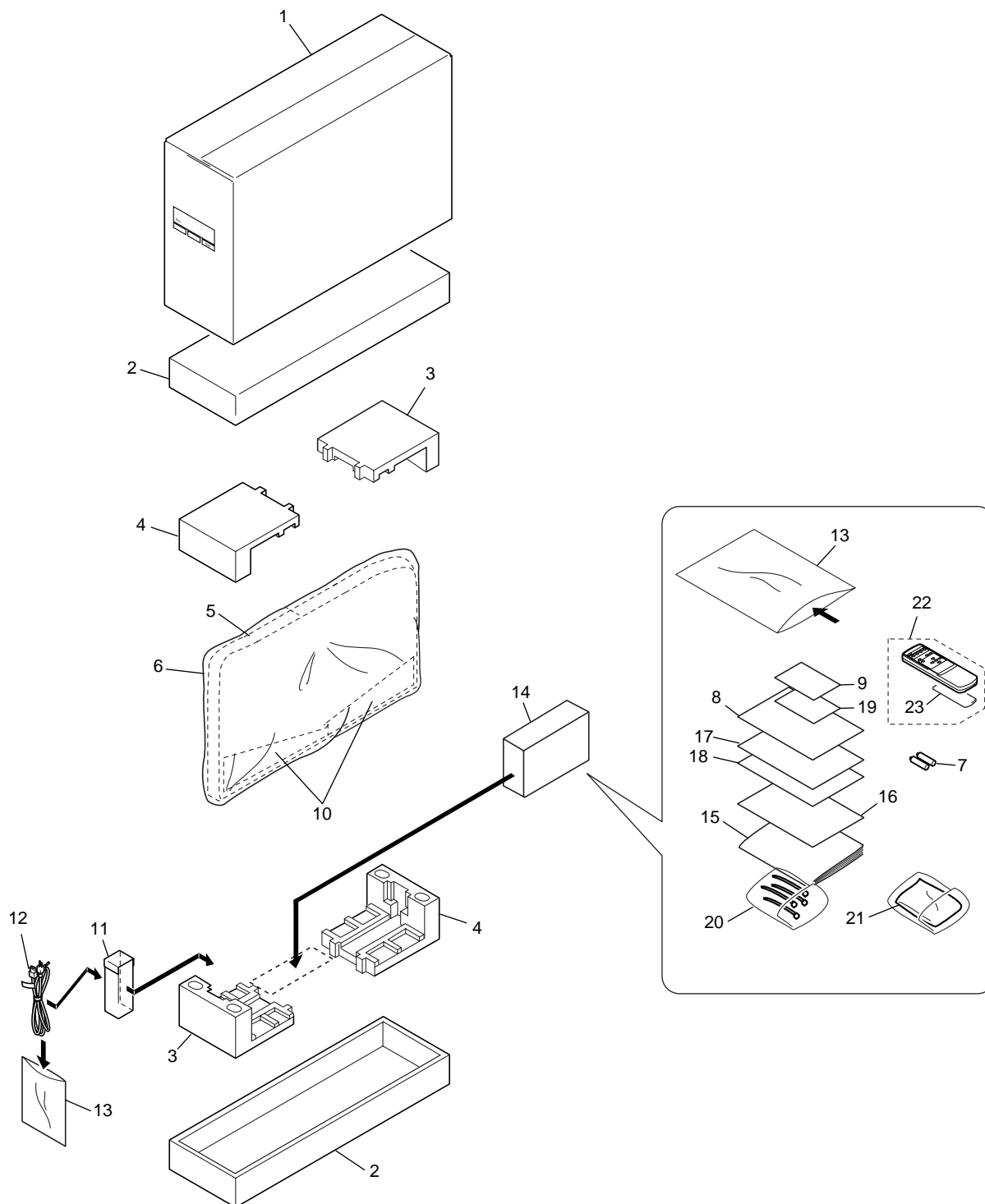
Therefore, when replacing, be sure to use parts of identical designation.

● Screws adjacent to ▼ mark on product are used for disassembly.

● For the applying amount of lubricants or glue, follow the instructions in this manual.

(In the case of no amount instructions, apply as you think it appropriate.)

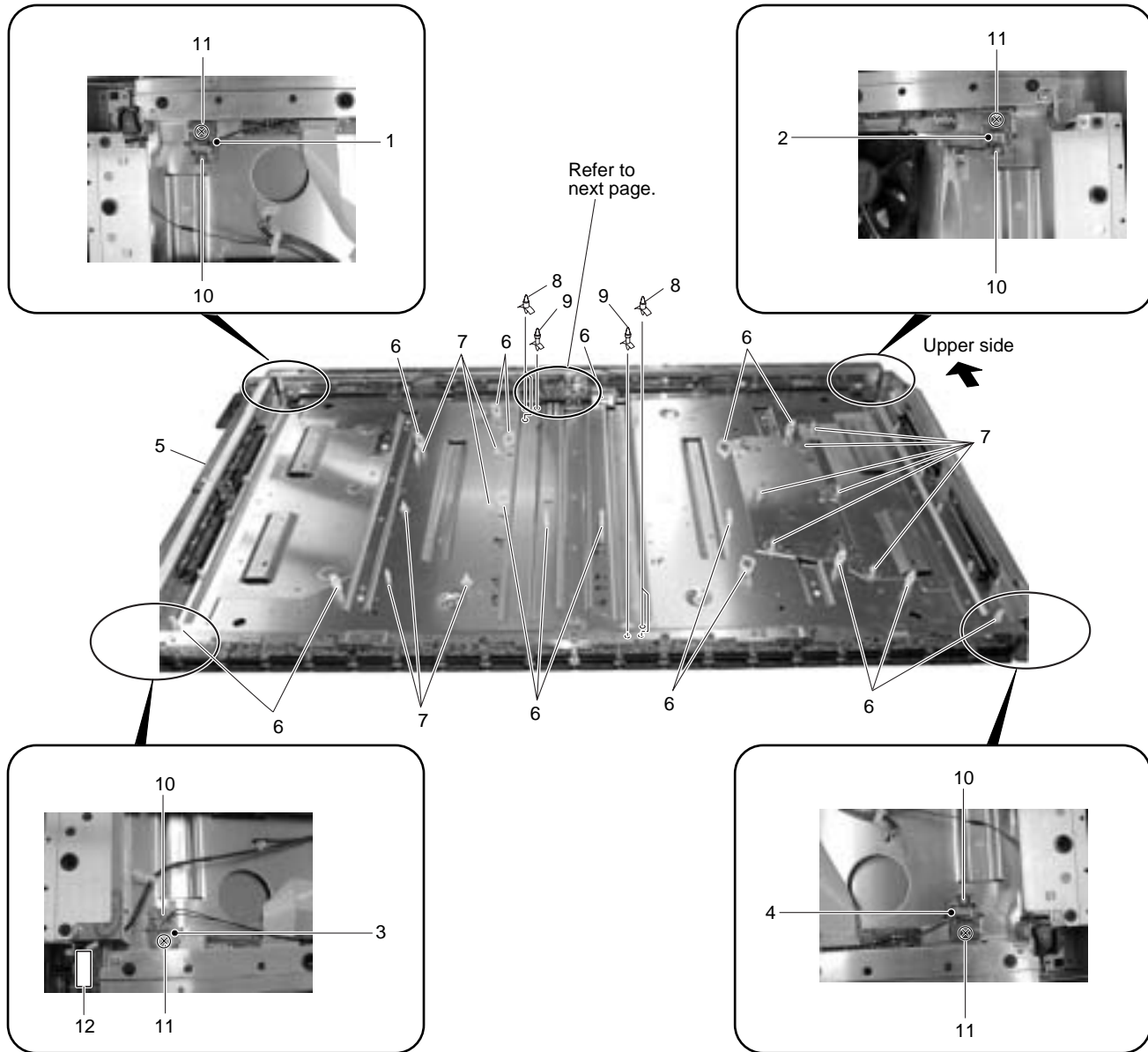
2.1 PACKING



PACKING parts Lis

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	Packing Case TOP	AHD3208
2	Under Carton	AHD3112
3	Corner Pad A	AHA2288
4	Corner Pad B	AHA2289
5	Vinyl Sheet 60 Under	AHG1234
NSP 6	Poly Bag	AHG1285
NSP 7	Dry Cell Battery (R6P, AA)	AEX1026
8	Caution Sheet	ARM1176
NSP 9	Warranty Card	ARY1123
10	Front Sheet	AHB1241
11	Cord Case	AHC1037
⚠ 12	Power Cord	ADG1208
13	Vinyl Bag	AHG1310
14	Accessory Case	AHC1036
15	Operating Instructions (English)	ARB1560
16	Caution Sheet	ARM1194
17	Caution Sheet	ARM1203
18	Plasma Caution Sheet	ARM1145
NSP 19	Card	VRY1132
20	Binder Assy (Speed Clamp x 2, Bead Band x 2)	AEC1758
21	Cleaning Cloth (for Wiping Front Panel)	AED1208
22	Remote Control Unit	AXD1459
23	Battery Cover	AZN2462

2.2 UNDER LAYER SECTION (1)



UNDER LAYER SECTION (1) parts List

Mark No.	Description	Part No.
1	CLAMP A Assy	AWZ6738
2	CLAMP B Assy	AWZ6739
3	CLAMP C Assy	AWZ6740
4	CLAMP D Assy	AWZ6741
5	Service Panel Assy	AWU1068

Mark No.	Description	Part No.
10	Locking Card Spacer	AEC1736
11	Screw	ABA1301
12	V Cushion	AED1205

6	Wire Saddle	AEC1904
7	Circuit Board Spacer	AEC1872
8	Circuit Board Spacer	AEC1873
NSP 9	PCB Spacer	AEC1121

■ Caution in Replacement of Panel Chassis (50) Assy

Service Panel Assy (AWU1068) is all common use parts of for business, public use and module.
Supply it by the state that installed Circuit Board Spacer (AEC1872) and Wire Saddle (AEC1904) as follows.
Therefore need to remove it in accordance with model.

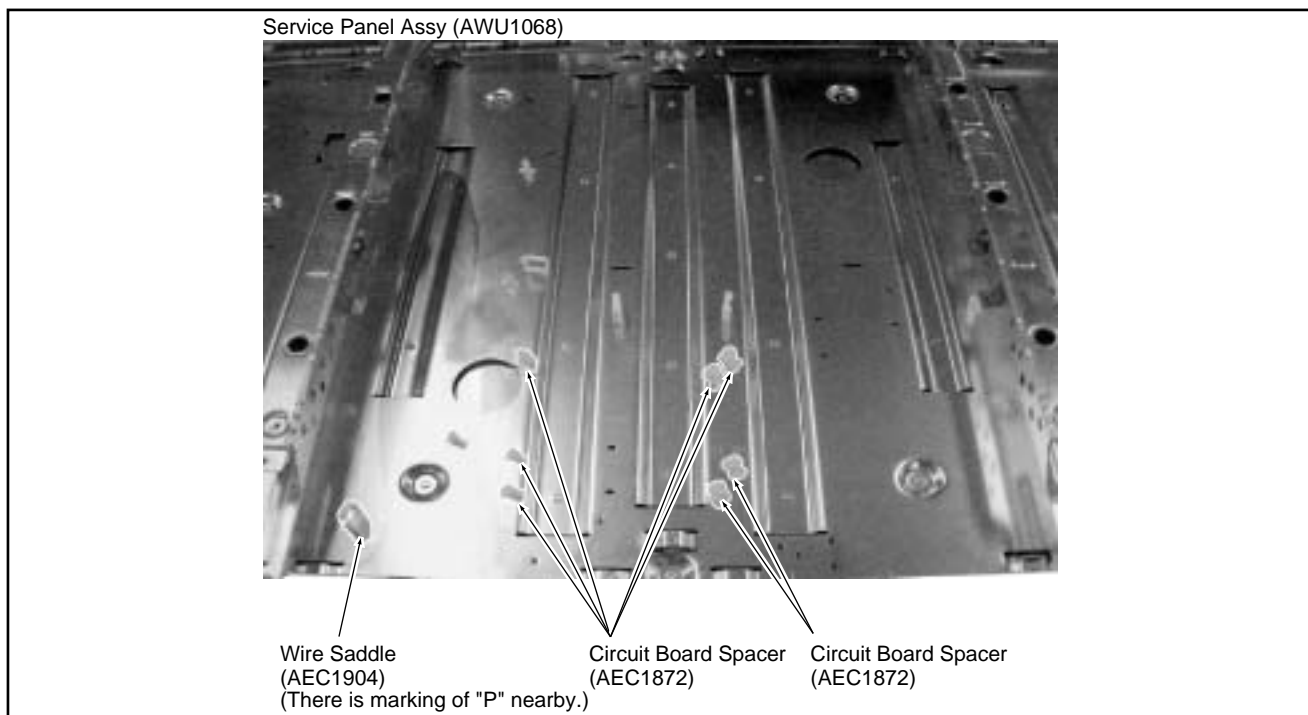
Confirm character carved a seal near the parts, and remove it.

P : Public exclusive use

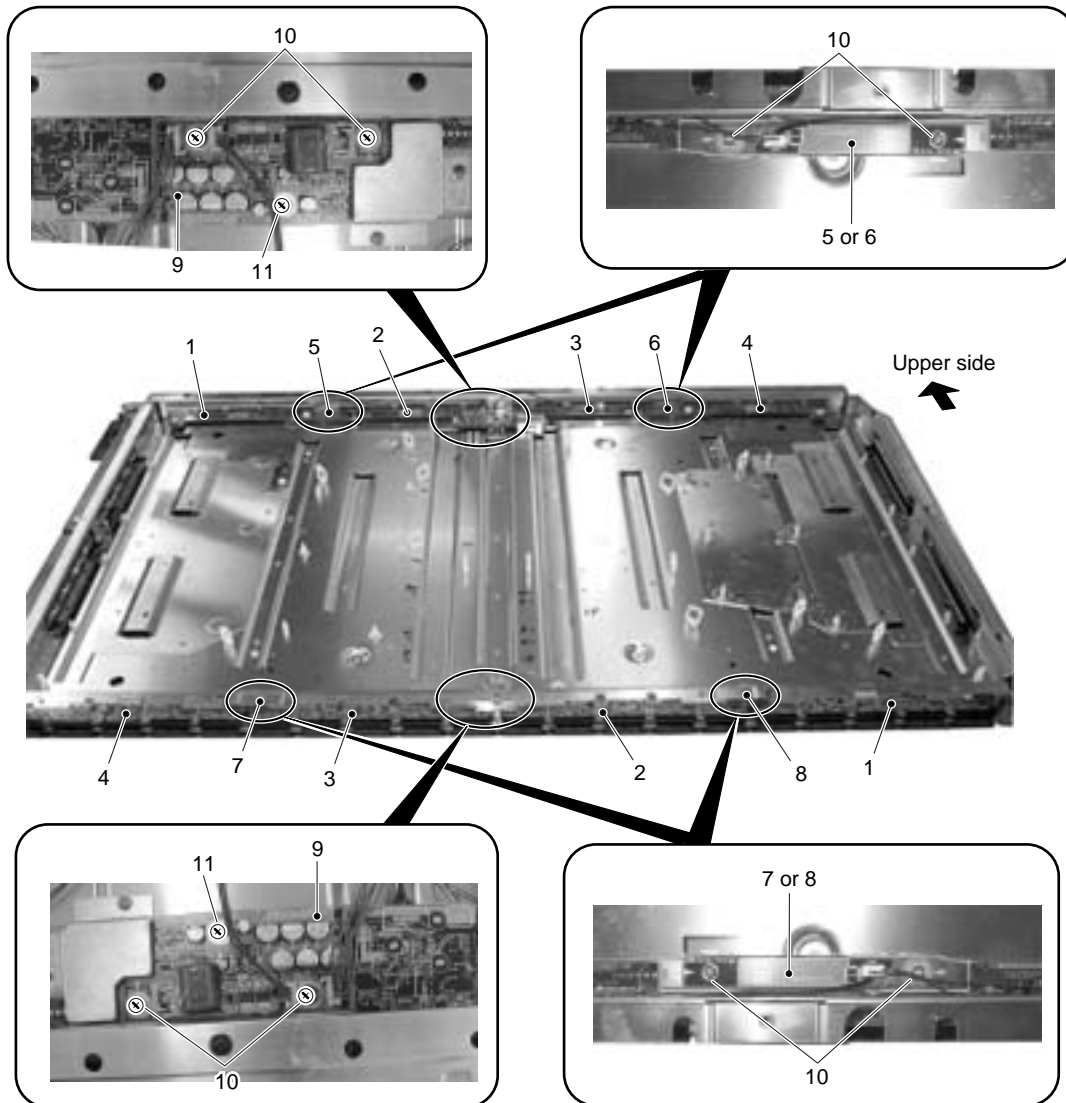
W : Module exclusive use

PW : Common use of public use and module

* In case of this unit, all the parts carved a seal of character removes it.



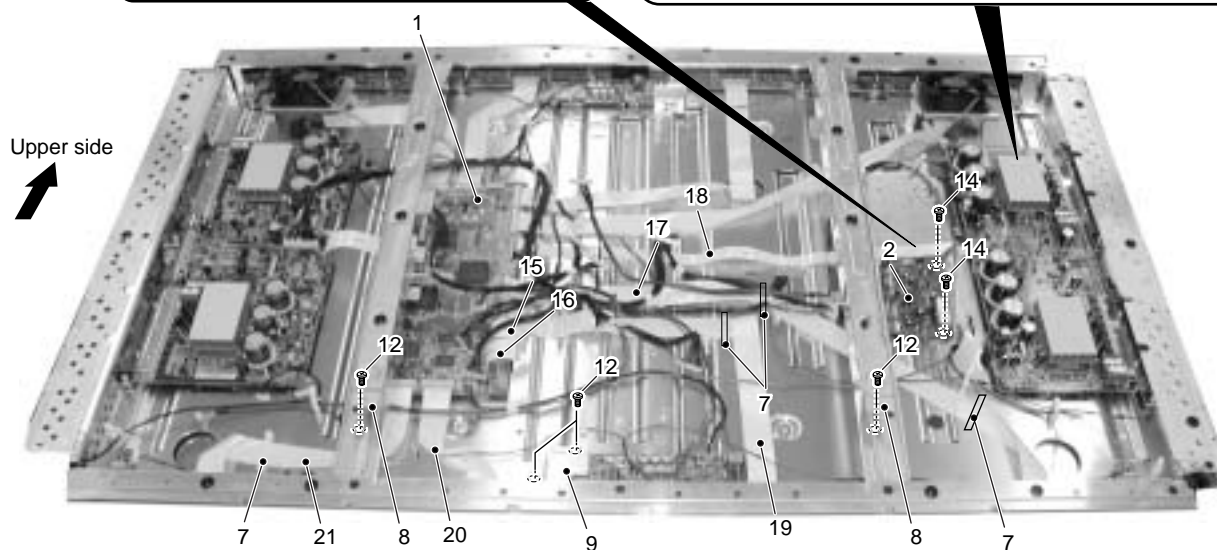
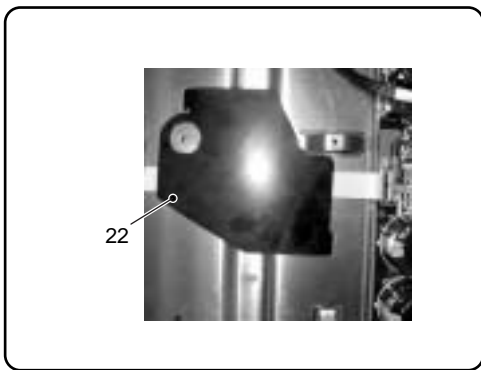
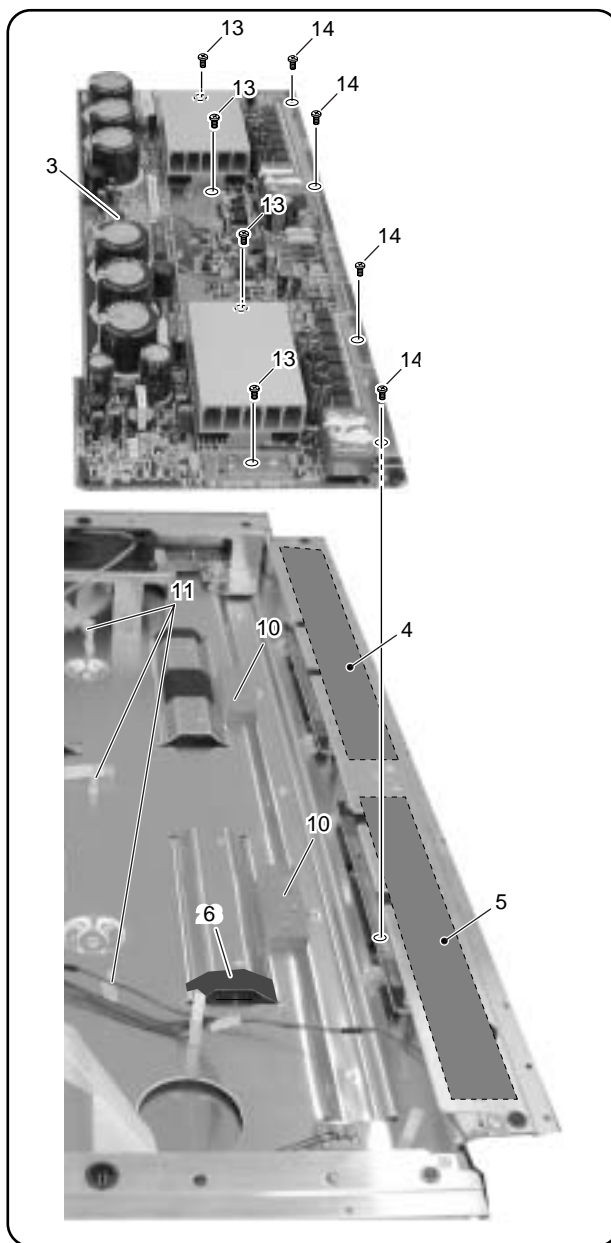
2.3 UNDER LAYER SECTION (2)



UNDER LAYER SECTION (2) parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
NSP 1	ADR CONNECT A Assy	AWZ6626
NSP 2	ADR CONNECT B Assy	AWZ6627
NSP 3	ADR CONNECT C Assy	AWZ6628
NSP 4	ADR CONNECT D Assy	AWZ6629
5	BRIDGE A Assy	AWZ6734
6	BRIDGE B Assy	AWZ6735
7	BRIDGE C Assy	AWZ6736
8	BRIDGE D Assy	AWZ6737
9	ADR RESONANCE Assy	AWZ6750
10	Screw	ABA1301
11	Screw	VBB30P100FNI

2.4 UNDER LAYER SECTION (3)



UNDER LAYER SECTION (3) parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
1	DIGITAL VIDEO Assy	AWV2072
2	MX AUDIO Assy	AWZ6644
3	X DRIVE Assy	AWV1984
NSP 4	X CONNECTOR (A) Assy	AWZ6732
NSP 5	X CONNECTOR (B) Assy	AWZ6733
6	Sheet D	AEC1985
7	Flat Clamp	AEC1879
NSP 8	Metal Fittings	ANG2464
NSP 9	Heat Sink	ANH1594
10	Coil Silicone Sheet	AEH1048
11	Circuit Board Spacer	AEC1872
12	Screw	ABZ30P060FMC
13	Screw	VBB30P100FNI
14	Screw	PMB30P060FNI
15	J201 Flexible Flat Cable	ADD1183
16	J202 Flexible Flat Cable	ADD1183
17	J209 Flexible Flat Cable	ADD1191
18	J204 Flexible Flat Cable	ADD1196
19	J210 Flexible Flat Cable	ADD1190
20	J211 Flexible Flat Cable	ADD1186
21	J212 Flexible Flat Cable	ADD1188
22	Audio Sheet	AMR3305

A

B

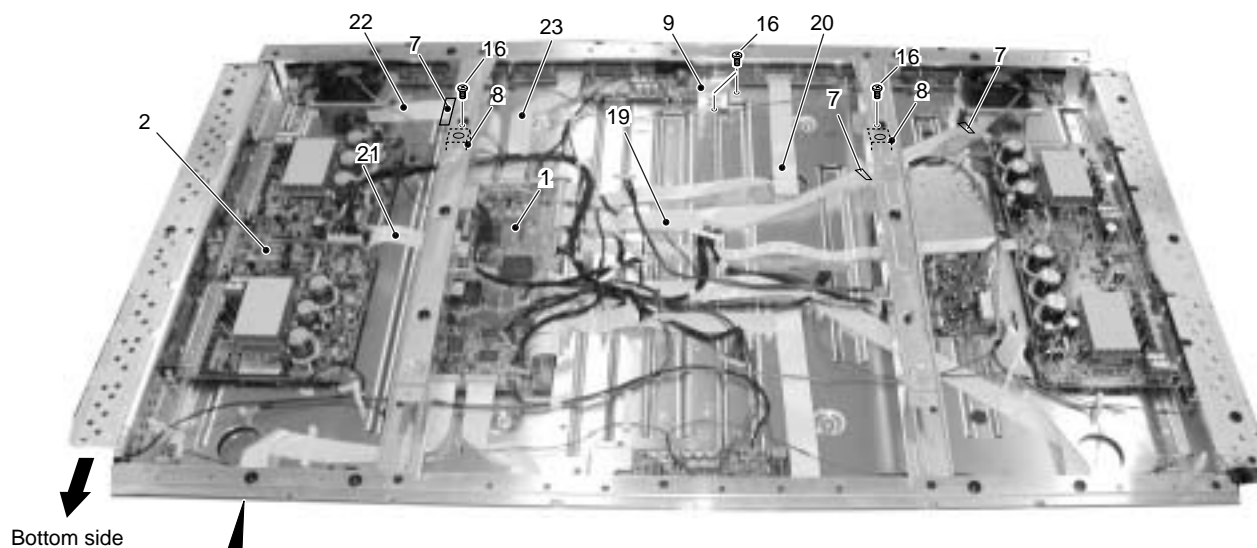
C

D

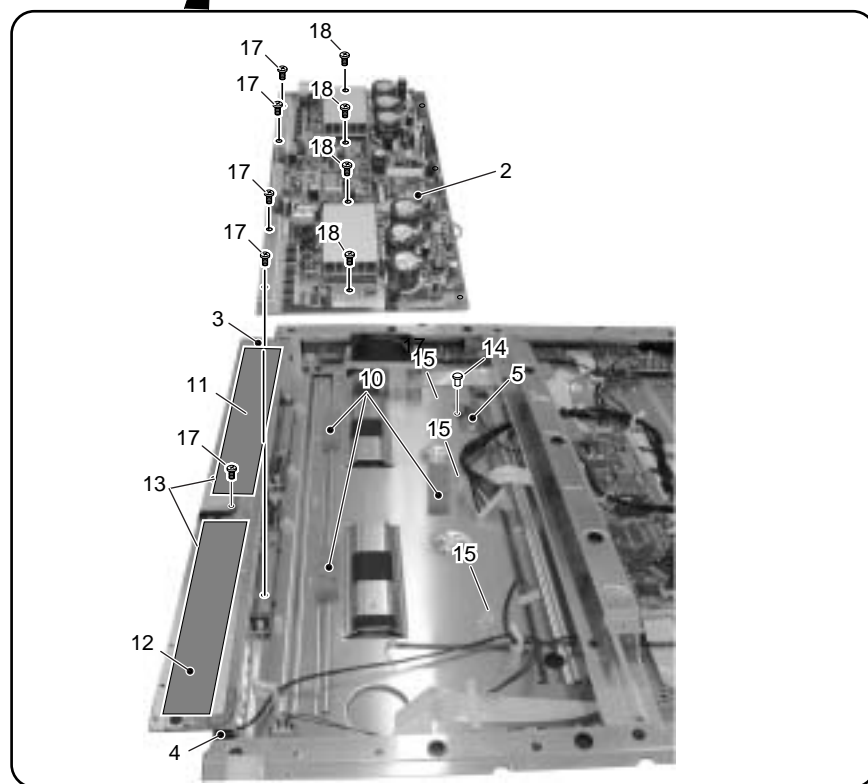
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F

2.5 UNDER LAYER SECTION (4)



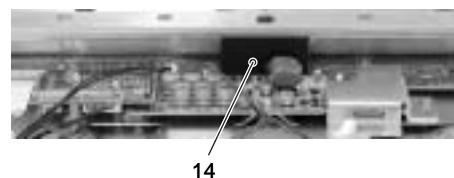
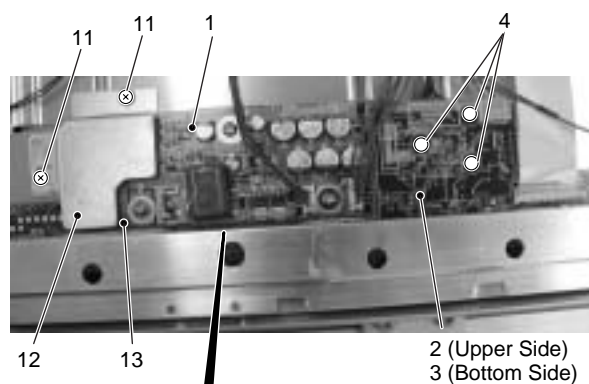
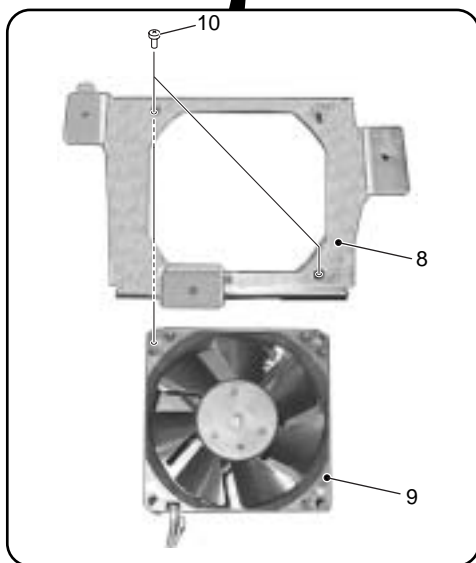
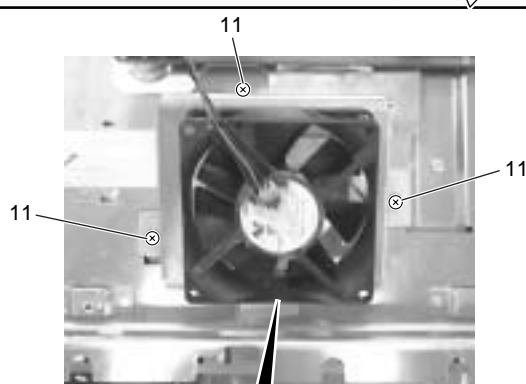
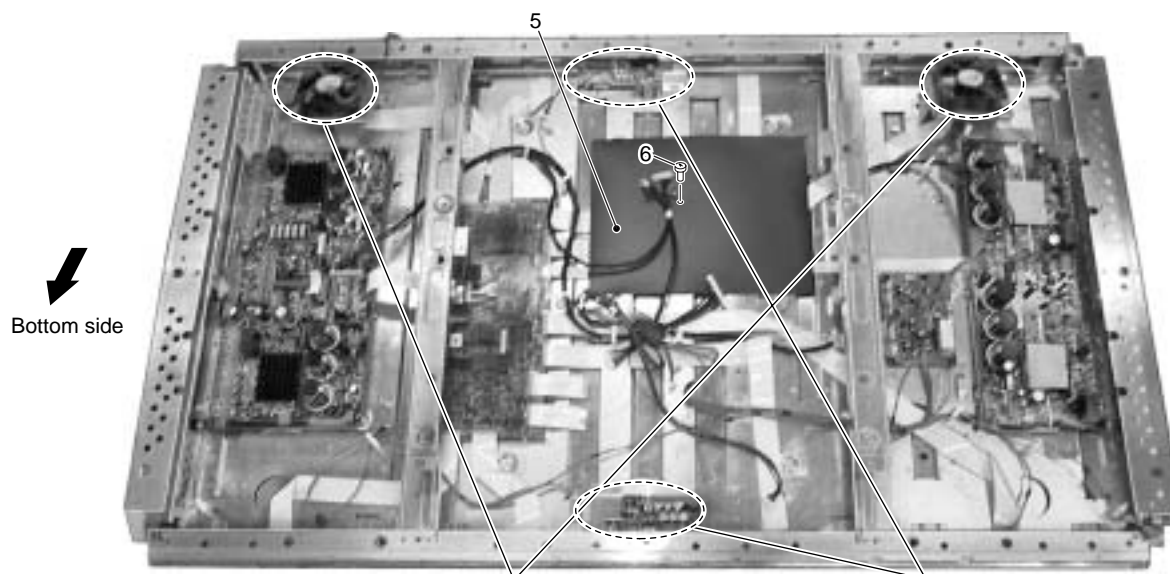
Bottom side



UNDER LAYER SECTION (4) parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	DIGITAL VIDEO Assy	AWV2072	13	Scan Insulation Sheet	AMR3271
2	Y DRIVE Assy	AWZ6745	14	Rivet	BEC1066
NSP 3	SCAN (A) Assy	AWZ6722	15	Circuit Board Spacer	AEC1872
NSP 4	SCAN (B) Assy	AWZ6723			
5	SENSOR Assy	AWZ6696	16	Screw	ABZ30P060FMC
6		17	Screw	PMB30P060FNI
7	Flat Clamp	AEC1879	18	Screw	VBB30P100FNI
NSP 8	Metal Fittings	ANG2464	19	J208 Flexible Flat Cable	ADD1191
NSP 9	Heat Sink	ANH1594	20	J207 Flexible Flat Cable	ADD1190
F 10	Coil Silicone Sheet	AEH1048	21	J203 Flexible Flat Cable	ADD1184
11	Scan IC Spring (L)	ABK1026	22	J205 Flexible Flat Cable	ADD1189
12	Scan IC Spring (R)	ABK1027	23	J206 Flexible Flat Cable	ADD1187

2.6 UNDER LAYER SECTION (5)



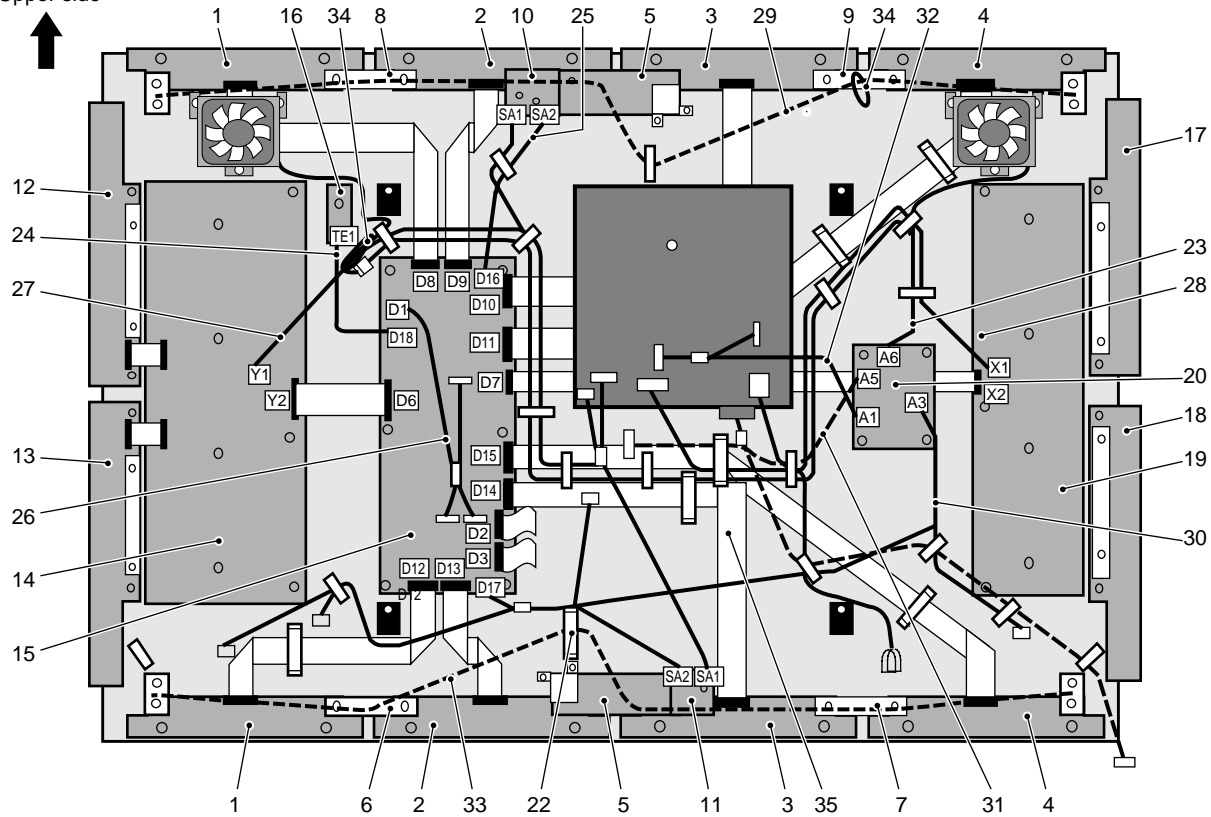
UNDER LAYER SECTION (5) parts List

Mark No.	Description	Part No.
1	ADR RESONANCE Assy	AWZ6750
2	SUB ADDRESS A Assy	AWZ6689
3	SUB ADDRESS B Assy	AWZ6690
4	Circuit Board Spacer	AEC1873
5	Power Sheet	AMR3291
6	Rivet	BEC1066
7	

Mark No.	Description	Part No.
NSP 8	Fan Metal	ANG2465
9	Fan Motor	AXM1040
10	Screw	PPZ50P100FZK
11	Screw	ABZ30P060FMC
NSP 12	Heatsink	ANH1594
13	Silicone Sheet	AEH1039
14	Insulating Sheet	AMR3343

2.7 UNDER LAYER SECTION (6)

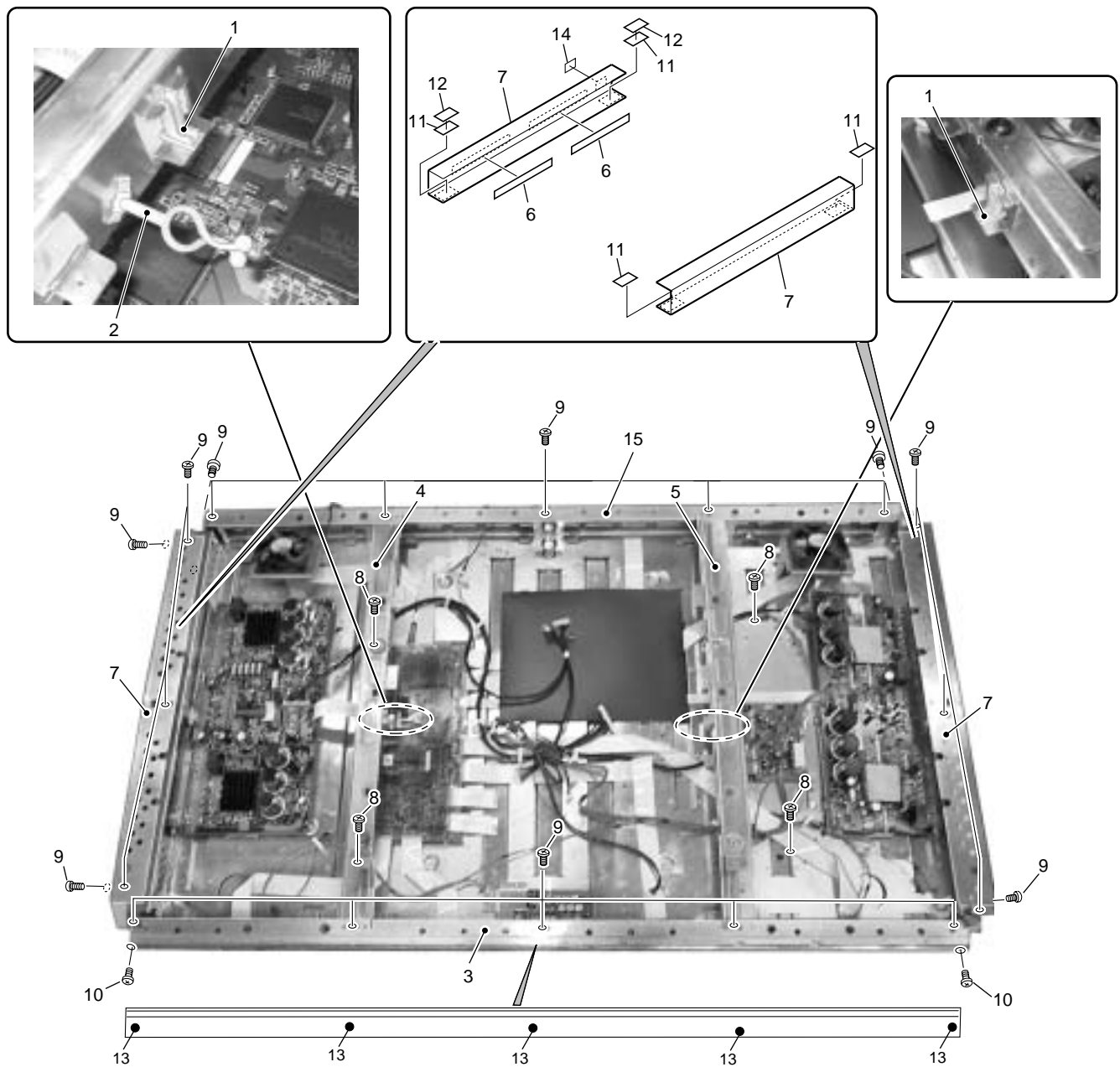
Upper side
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MIDDLE LAYER SECTION (1) parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	ADR CONNECT A Assy	AWZ6626	19	X DRIVE Assy	AWV1984
NSP 2	ADR CONNECT B Assy	AWZ6627	20	MX AUDIO Assy	AWZ6644
NSP 3	ADR CONNECT C Assy	AWZ6628			
NSP 4	ADR CONNECT D Assy	AWZ6629	21	•••••	
5	ADR RESONANCE Assy	AWZ6750	22	Flat Clamp	AEC1879
			23	J115 3P Housing Wire	ADX2705
6	BRIDGE A Assy	AWZ6734	24	J110 3P Housing Wire	ADX2704
7	BRIDGE B Assy	AWZ6735	25	J108 8P Housing Wire	ADX2811
8	BRIDGE C Assy	AWZ6736			
9	BRIDGE D Assy	AWZ6737	26	J101 Wire F	ADX2695
10	SUB ADDRESS A Assy	AWZ6689	27	J102 Wire E	ADX2782
			28	J103 13P Housing Wire	ADX2700
11	SUB ADDRESS B Assy	AWZ6690	29	J116 4P Housing SP Wire	ADX2756
NSP 12	SCAN (A) Assy	AWZ6722	30	J109 Wire G	ADX2696
NSP 13	SCAN (B) Assy	AWZ6723			
14	Y DRIVE Assy	AWZ6745	31	J111 Wire I	ADX2698
15	DIGITAL VIDEO Assy	AWV2072	32	J104 Wire H	ADX2697
			33	J117 4P Housing SP Wire	ADX2756
16	SENSOR Assy	AWZ6696	34	Binder	AEC-093
17	X CONNECTOR (A) Assy	AWZ6732	35	J118 5P Housing Wire	ADX2776
18	X CONNECTOR (B) Assy	AWZ6733			

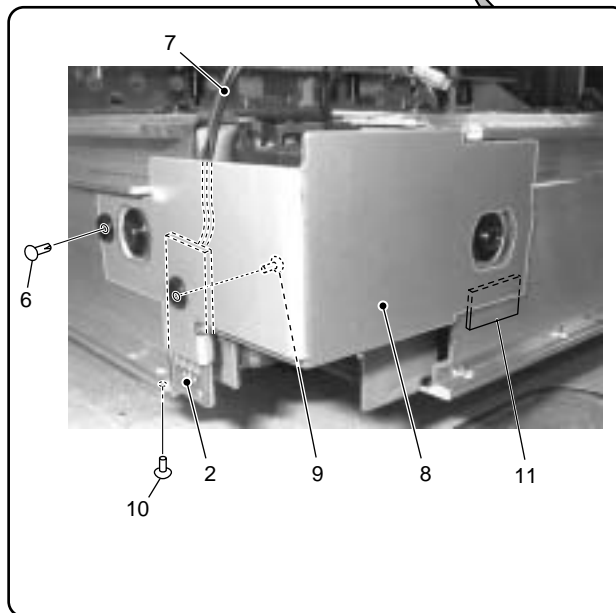
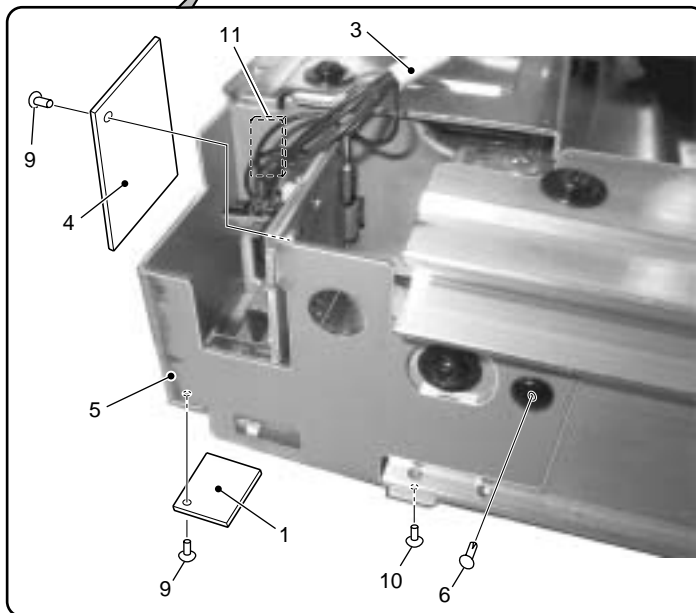
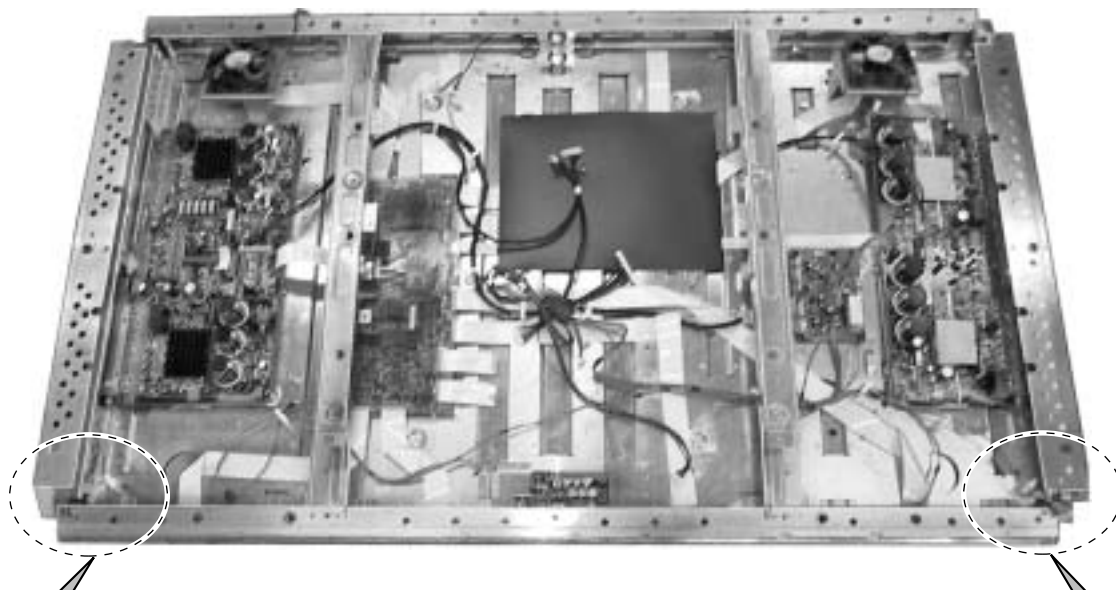
2.8 MIDDLE LAYER SECTION (1)



MIDDLE LAYER SECTION (2) parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Card Corner Holder	BEC1144	11	V Cushion	AED1205
2	Niplocker	BEC1136	12	Gasket R	ANK1695
NSP 3	Front Chassis H	ANA1683	NSP 13	Spacer	AEC1902
4	Sub Frame L	ANG2455	14	Seet C	AEC1927
5	Sub Frame R	ANG2456	NSP 15	Front Chassis HU	ANA1697
6	FPC Cushion	AEB1370			
NSP 7	Front Chassis V	ANA1661			
8	Screw	AMZ30P060FZK			
9	Screw	ABA1294			
10	Screw	BMZ30P060FMC			

2.9 MIDDLE LAYER SECTION (2)



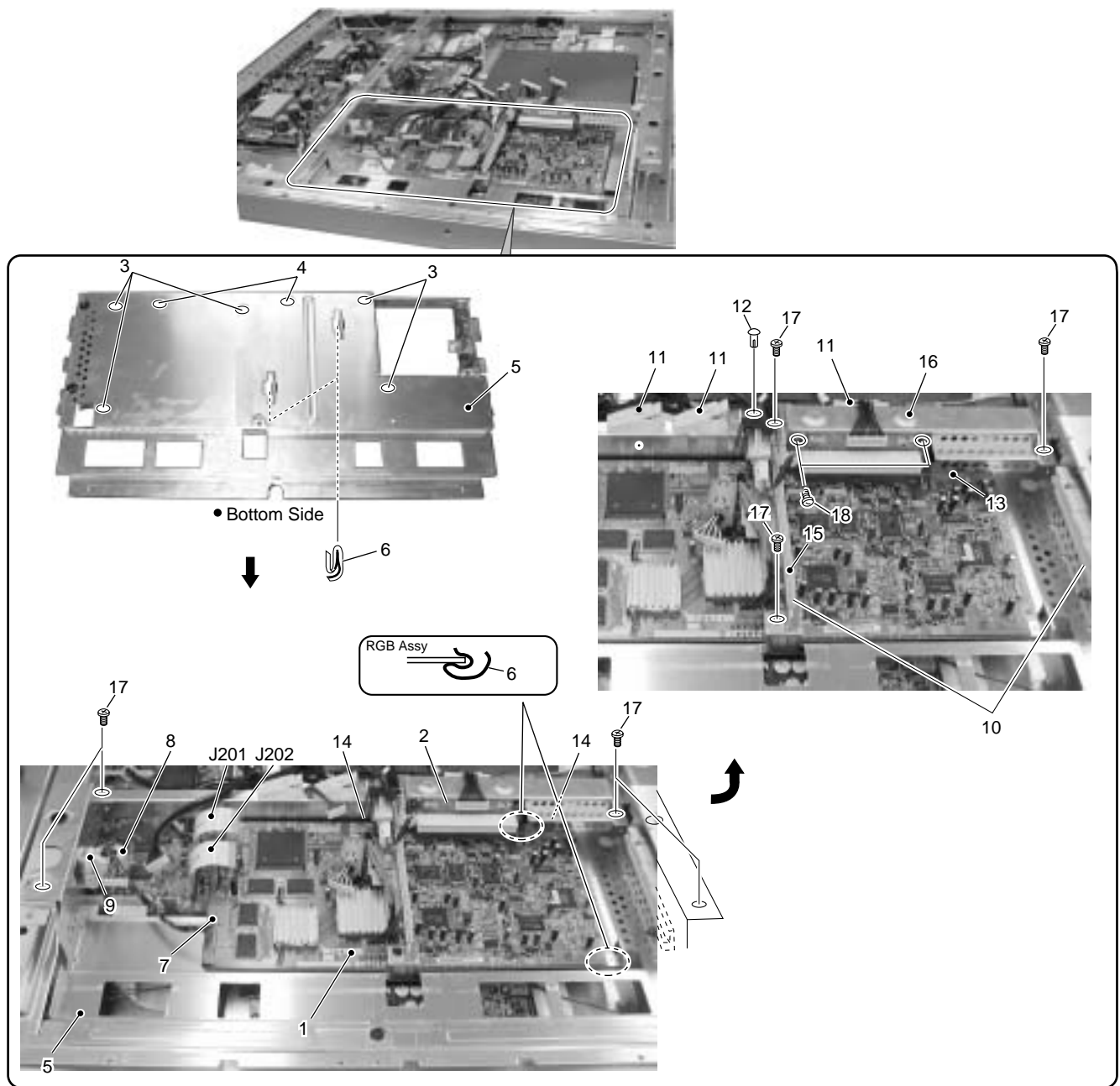
MIDDLE LAYER SECTION (2) parts List

Mark No.	Description	Part No.
1	IR Assy	AWZ6643
2	MX LED Assy	AWZ6642
3	J113 Wire J	ADX2699
4	KEY CONNECTOR Assy	AWZ6695
NSP 5	IR Holder	ANG2494

Mark No.	Description	Part No.
10	Screw	ABZ30P050FZK
11	Gasket R	ANK1695

6	Nylon Rivet	AEC1671
7	J111 Wire I	ADX2698
NSP 8	Switch Holder	ANG2493
9	Screw	BMZ30P040FMC

2.10 MIDDLE LAYER SECTION (3)

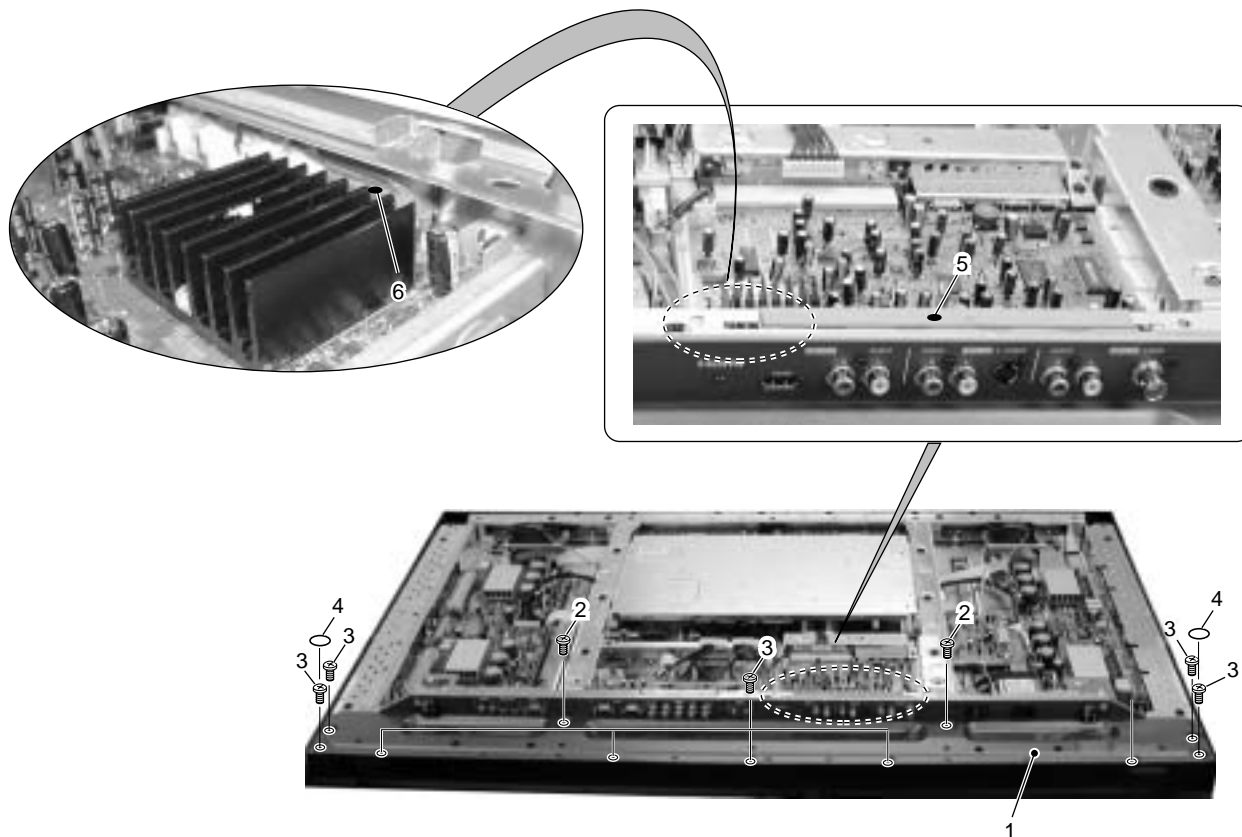


MIDDLE LAYER SECTION (3) parts List

Mark No.	Description	Part No.
1	RGB Assy	AWZ6837
2	SLOT CONNECTOR Assy	AWZ6634
3	Spacer	AEC1065
4	Card Spacer	AEC1882
NSP 5	RGB Base	ANA1662
6	Ground Finger	ANG2468
7	Card Spacer	AEC1899
8	Ferrite Core (L3)	ATX1044
9	Ferrite Core Holder	AEC1818
10	Guide Rail EX	AEC1900
11	Clamp	AEC1884
12	Nylon Rivet	AEC1671

Mark No.	Description	Part No.
13	J111 Wire I	ADX2698
14	Wire Saddle	AEC1745
NSP 15	Video Stay	AND1171
NSP 16	PCB Stay	AND1170
17	Screw	AMZ30P060FZK
18	Screw	VBB30P100FNI

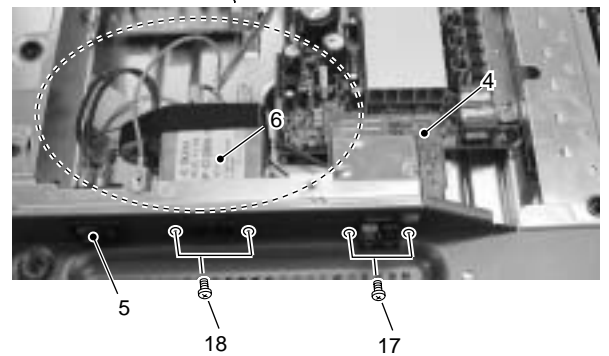
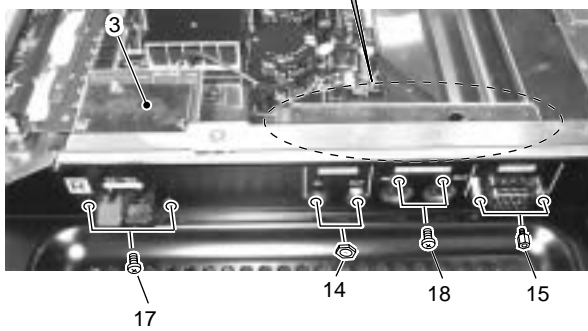
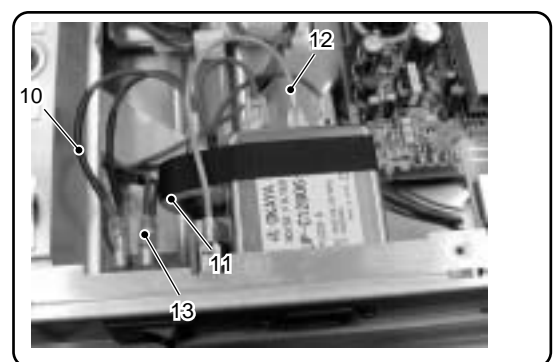
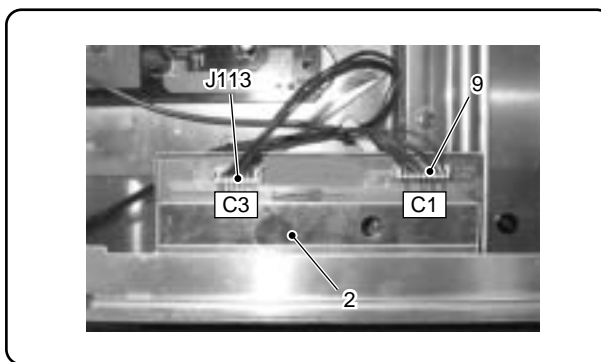
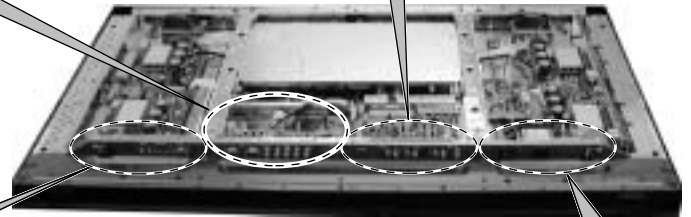
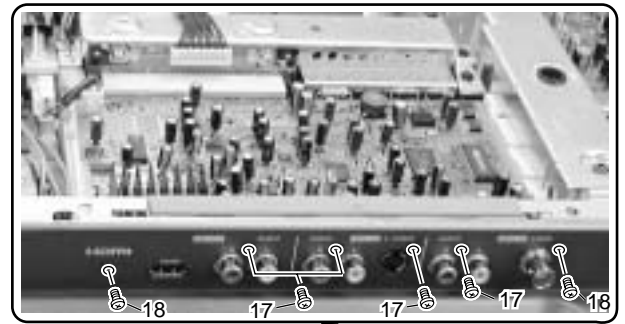
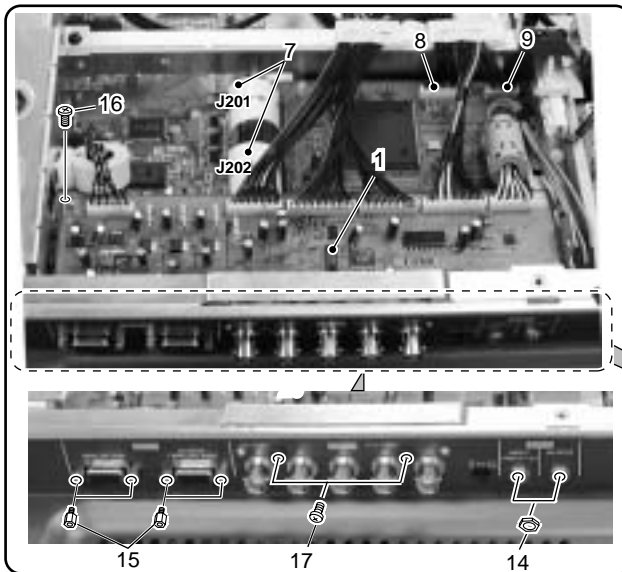
2.11 MIDDLE LAYER SECTION (4)



MIDDLE LAYER SECTION (2) parts List

Mark No.	Description	Part No.
1	Terminal Panel 50	ANG2632
2	Screw	AMZ30P060FZK
3	Screw	TBZ40P080FZK
4	Rear Corner Label	AAX2862
5	Gasket S	ANK1699
6	Gasket	ANK1726

2.12 UPPER LAYER SECTION (1)

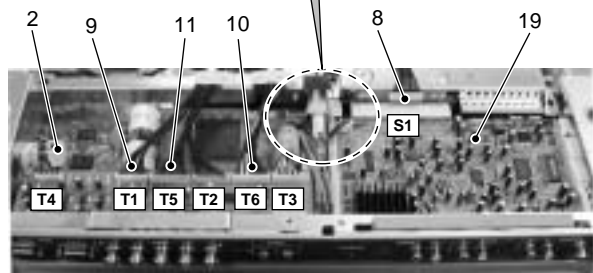
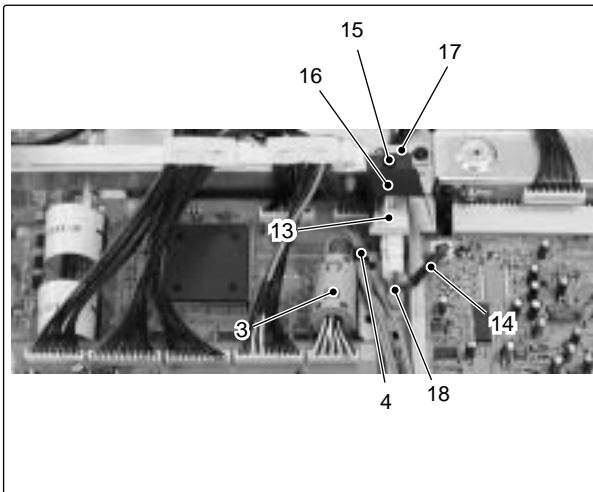
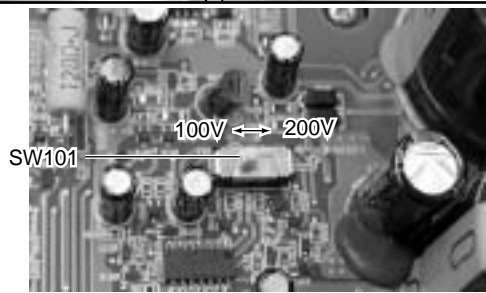
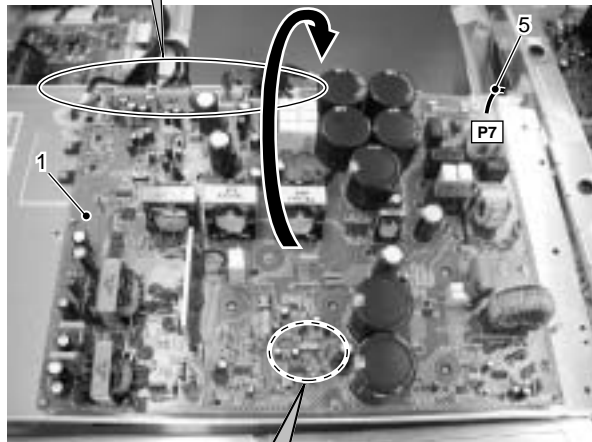
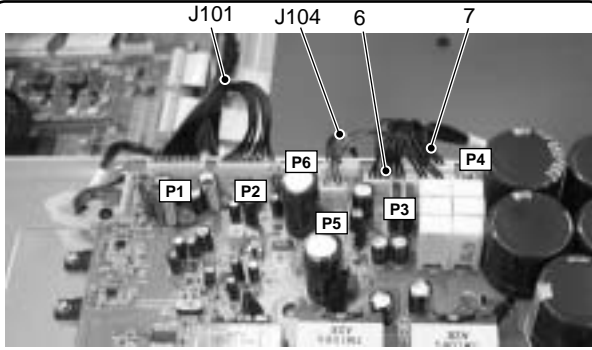
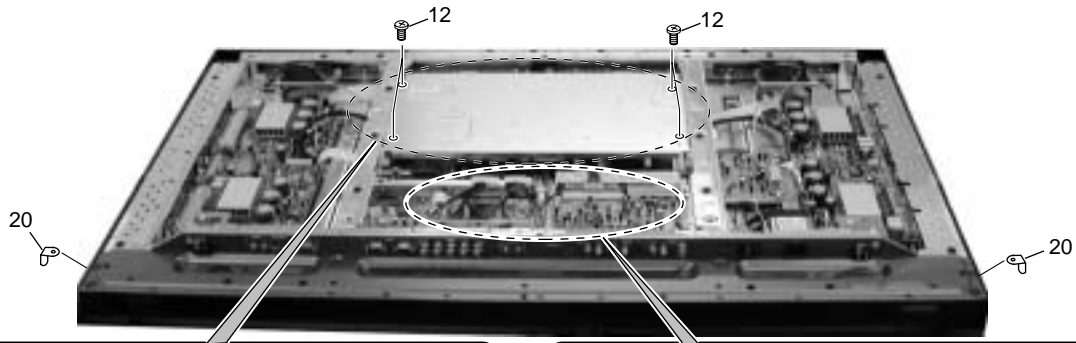


UPPER LAYER SECTION (1) parts Lis

Mark No.	Description	Part No.
1	I/O Assy	AWZ6801
2	CONTROL Assy	AWZ6633
3	SP OUT R Assy	AWZ6706
4	SP OUT L Assy	AWZ6705
⚠ 5	Power Switch (S1)	BSM1006
⚠ 6	AC Inlet with Filter (CN1)	AKP1223
7	J201, J202 Flexible Cable	ADD1183
8	J107 12P Housing Wire	ADX2702
9	J109 Wire G	ADX2696
10	J106 Wire C	ADX2693

Mark No.	Description	Part No.
11	Ferrite Core (L1)	ATX1032
12	J114 Earth Wire	ADX2709
13	J105 Wire B	ADX2692
14	Hexagonal Nut	ABN1035
15	Hexagonal Head Screw	BBA1051
16	Screw	PMB30P060FNI
17	Screw	BPZ30P080FZK
18	Screw	BMZ30P060FZK

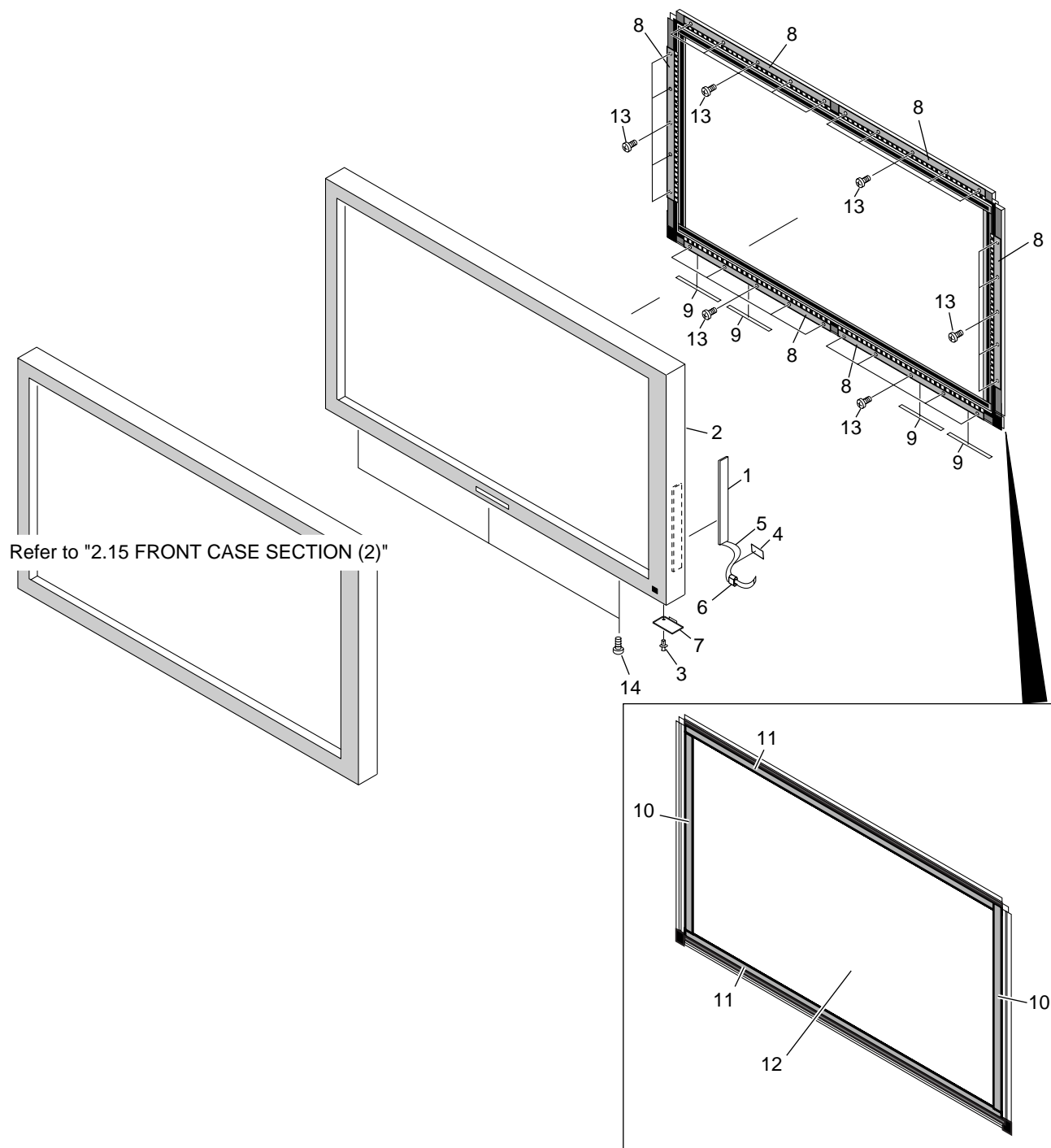
2.13 UPPER LAYER SECTION (2)



UPPER LAYER SECTION (2) parts List

<u>Mark No.</u>	<u>Description</u>	<u>Part No.</u>
⚠ 1	SW Power Supply Module	AXY1059
2	Ferrite Core (L3)	ATX1044
3	Ferrite Core (L2)	ATX1039
4	Binder	AEC-093
5	J105 Wire B	ADX2692
6	J102 Wire E	ADX2782
7	J103 13P Housing Wire	ADX2700
8	J112 13P Housing Wire	ADX2703
9	J101 Wire F	ADX2695
10	J104 Wire H	ADX2697
11	J111 Wire I	ADX2698
12	Screw	AMZ30P060FZK
13	Power Switch	ASG1089
14	J119 3P Housing Wire	ADX2820
15	Rivet	AEC1686
16	SW Cover (TH)	AMR3364
17	SW Holder	ANG2543
18	PIN Gromment	AEC1015
19	VIDEO SLOT US2 ASSY	AWV2064
20	SW Spacer	AMR3371

2.14 FRONT CASE SECTION (1)



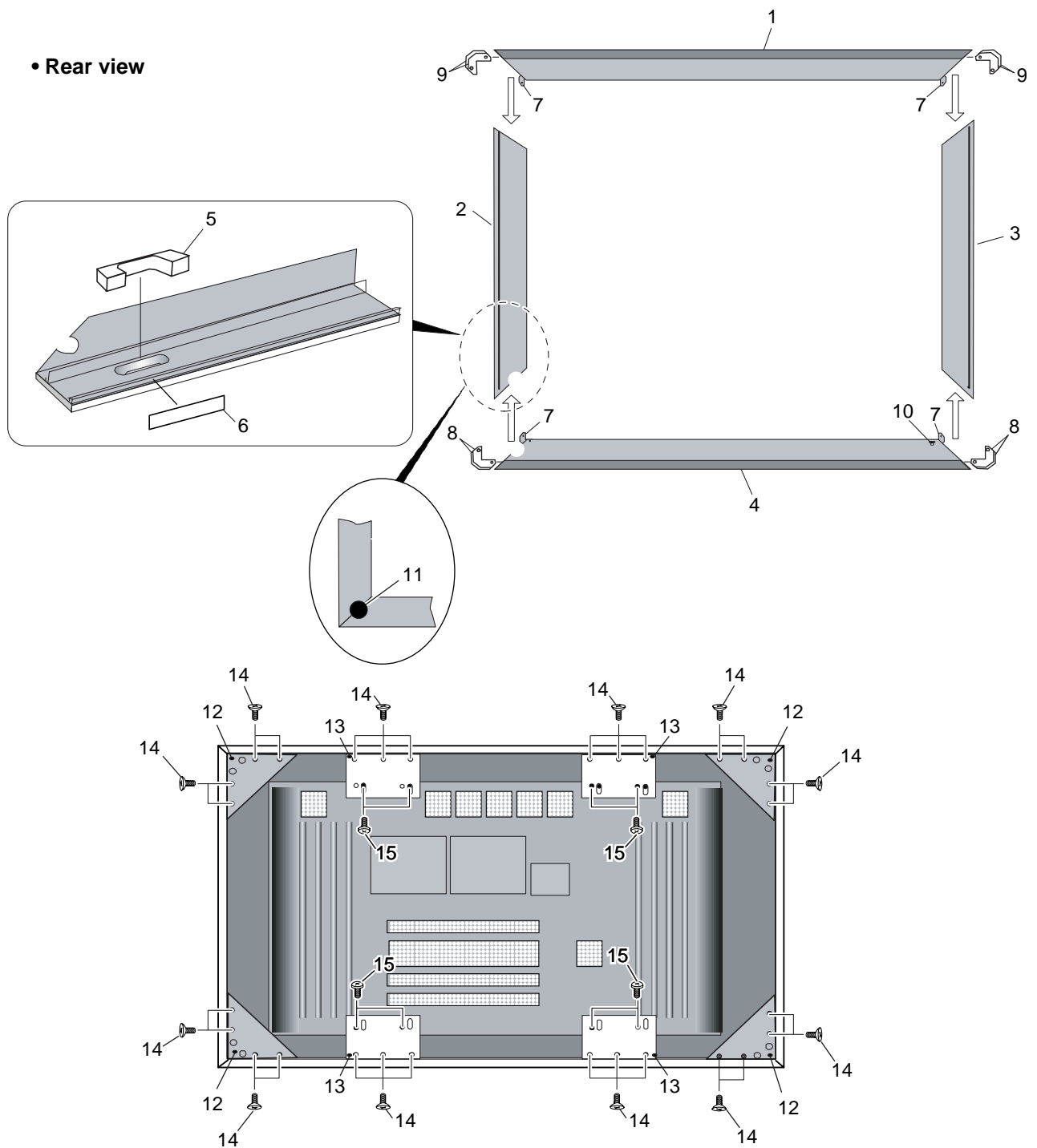
FRONT CASE SECTION (1) parts List

Mark No.	Description	Part No.
1	SIDE KEY Assy	AWZ6637
2	Front Case 50 (PET)	AMB2805
3	Rivet	AEC1877
4	Flexible Seal	AEH1074
5	J213 Flexible Cable	ADD1195
6	Ferrite Core (L4)	ATX1043
7	Lead Cover (MX)	AMR3341
NSP 8	Panel Holder 50	ANG2508
9	Front Spacer	AEC1896
10	Panel Cushion V	AED1199

Mark No.	Description	Part No.
11	Panel Cushion H	AED1198
12	Protect Panel Assy	AMR3304
13	Screw	ABZ30P050FZK
14	Screw	VMZ30P060FZK

2.15 FRONT CASE SECTION (2)

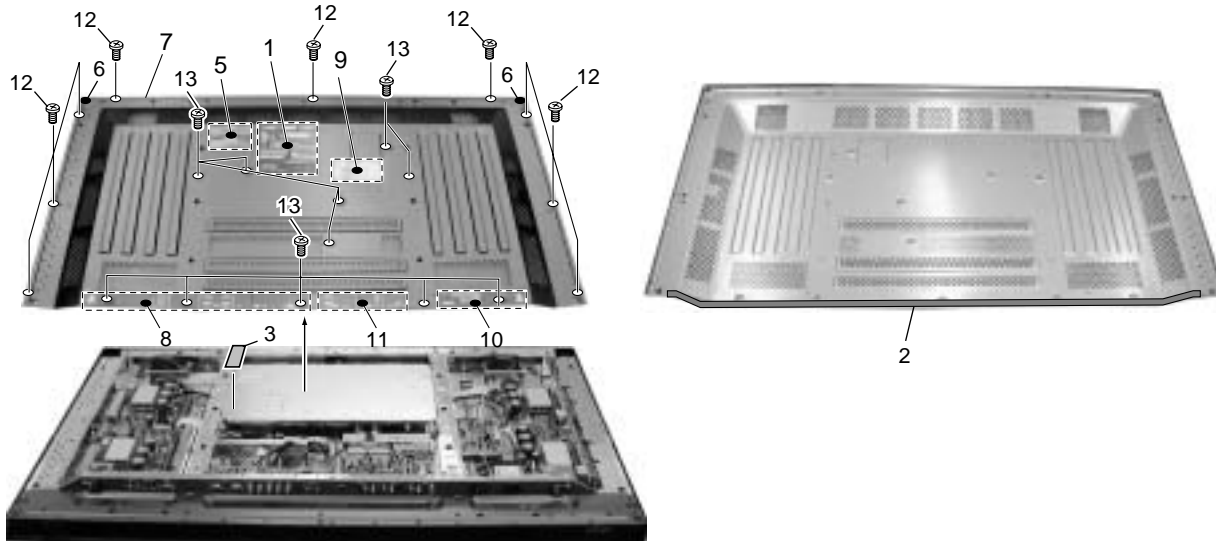
• Rear view



FRONT CASE SECTION (2) parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
1	Flame Top	AMB2713	11	Lens for IR Window	AMR3295
NSP 2	Frame R	AMB2719	NSP 12	Corner Plate	ANG2505
NSP 3	Frame L	AMB2720	NSP 13	Mounting Bracket	ANG2504
4	Frame BTM	AMB2807	14	Screw A for Bracket	ABA1304
5	Spacer pad for Side	AMR3293	15	Screw B for Bracket	ABA1305
6	Spacer pad B for Side	AMR3301			
NSP 7	Front L Joint Plate	ANG2512			
NSP 8	L Joint Bottom Plate	ANG2502			
NSP 9	L Top Upper Plate	ANG2503			
10	Lens for LED	AMR3296			

2.16 REAR SECTION



REAR SECTION parts List

Mark No.	Description	Part No.	Mark No.	Description	Part No.
NSP 1	ID Label PRO-1000HDI	AAL2505	8	Terminal Display Label R	AAX2931
2	Gascket L50	ANK1701	9	Bolt Caution Label	AAX2928
3	Solder Warning Label	AAX2644	10	Terminal Display Label L	AAX2932
4	•••••				
5	Cleaning Label	AAX2926	11	Terminal Display Label V	AAX3036
6	Rear Corner Label	AAX2862	12	Screw	TBZ40P080FZK
7	Rear Case 50CMX (FE)	ANE1610	13	Screw	AMZ30P060FZK

2.17 PANEL CHASSIS (50) ASSY (AWU1066)

Panel Chassis (50) Assy (AWU1066) consists of the following parts.

• Parts List

• List of Assy

Mark No.	Description	Part No.	Mark	Description	Part No.
NSP	SCAN FUKUGO ASSY	AWV1968	NSP	1..SCAN FUKUGO ASSY	AWV1968
NSP	ADDRESS FUKUGO ASSY	AWV1900	NSP	2..SCAN (A) ASSY	AWZ6722
NSP	Address Module (IC1 - IC40)	AXF1114	NSP	2..SCAN (B) ASSY	AWZ6723
NSP	FPC (0003)	ADY1065	NSP	2..X CONNECTOR (A) ASSY	AWZ6732
NSP	FPC (J0001)	ADY1066	NSP	2..X CONNECTOR (B) ASSY	AWZ6733
NSP	1..Chassis Assy	ANA1711		2..BRIDGE A ASSY	AWZ6734
NSP	2..Chassis	ANA1655		2..BRIDGE B ASSY	AWZ6735
NSP	2..Base Chassis	ANA1656		2..BRIDGE C ASSY	AWZ6736
NSP	2..Scan Heatsink	ANH1609		2..BRIDGE D ASSY	AWZ6737
NSP	2..Corner Angle A	ANG2457		2..CLAMP A ASSY	AWZ6738
NSP	2..Corner Angle B	ANG2458		2..CLAMP B ASSY	AWZ6739
	2..Sheet A	AEC1923		2..CLAMP C ASSY	AWZ6740
	2..Sheet B	AEC1924		2..CLAMP D ASSY	AWZ6741
NSP	2..Tube Cover	AMR3262	NSP	1..ADDRESS FUKUGO ASSY	AWV1900
	2..Rear Coner Label	AAX2862	NSP	2..ADR CONNECT A ASSY	AWZ6626
	2..Siricon Sheet 50	AEH1037	NSP	2..ADR CONNECT B ASSY	AWZ6627
	2..Adhesive Tape 50	AEH1038	NSP	2..ADR CONNECT C ASSY	AWZ6628
	2..Adhesive Tape B (50)	AEH1051	NSP	2..ADR CONNECT D ASSY	AWZ6629
	2..Panel Siricon Sheet	AEH1055		2..ADR RESONANCE ASSY	AWZ6750
	Pin Grommet	AEC1015			
NSP	Protection Tape	AEH1059			
	Scan Siricon Sheet	AEH1057			
NSP	Plasma Panel Assy	AAV1238			
	Screw	VBB30P100FNI			

3. CONTRAST OF MISCELLANEOUS PARTS

CONTRAST TABLE

PRO-1000HDI/LUCXC and PDP-503CMX/LUCB are constructed the same except for the following :

Mark	No.	Symbol and Description	PDP-503CMX/ LUCB	PRO-1000HDI/ LUCXC	Remarks
NSP		PCB ASSEMBLY			
		1..RGB VIDEO ASSY	AWV1978	AWV2063	
		2..I/O ASSY	AWZ6631	AWZ6801	*1
		2..RGB ASSY	AWZ6744	AWZ6837	*1
		1..VIDEO CARD	PDA-5002	Not used	
		1..VIDEO SLOT US2 ASSY	Not used	AWV2064	*1

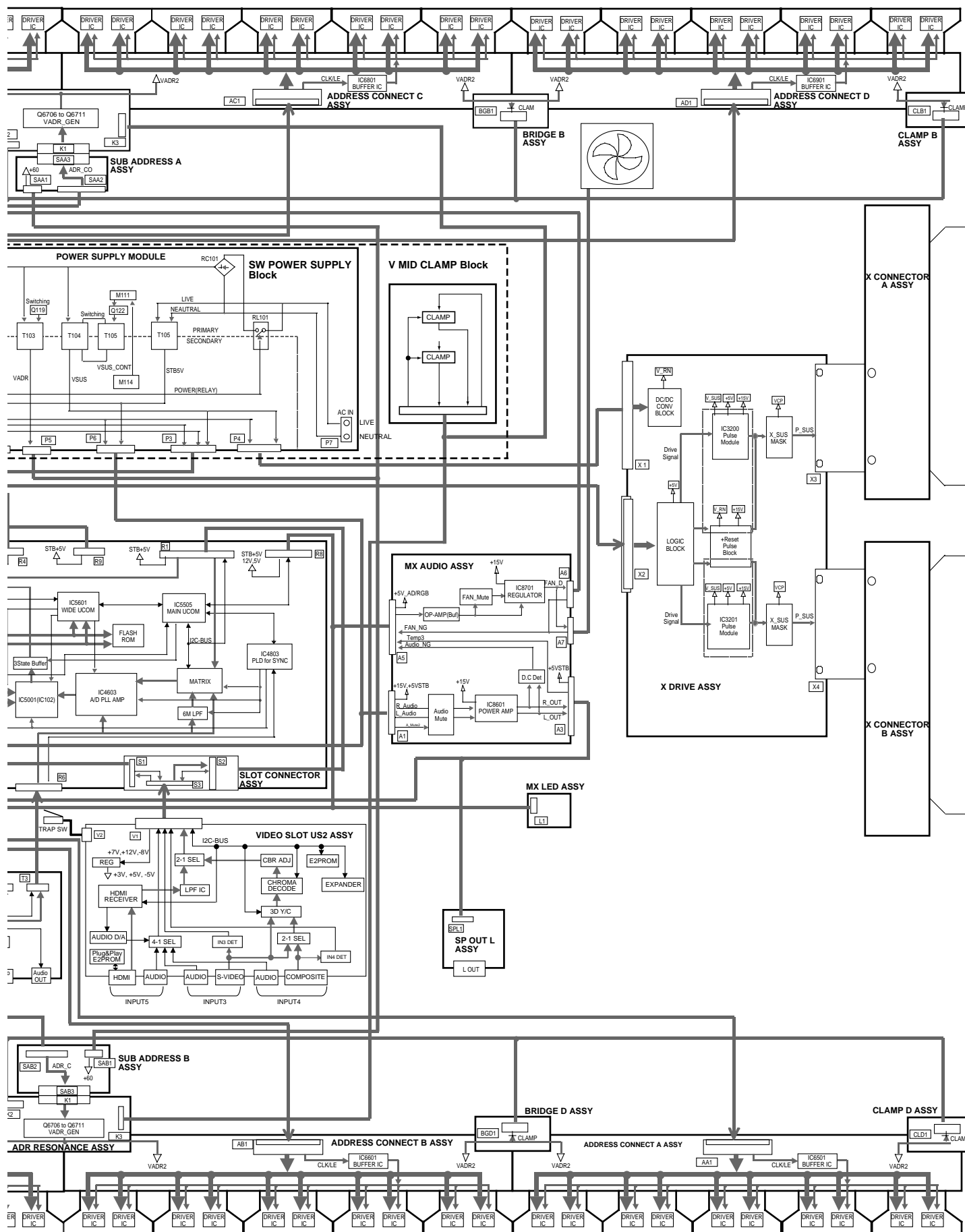
Note:

*1. The PCB ASSEMBLIES, Refer to .“4. BLOCK DIAGRAM AND SCHEMATIC DIAGRAM, 5.PCB CONNECTION DIAGRAM and PCB PARTS LIST”.

4.1.1 OVERALL DIAGRAM

The diagram illustrates a complex electronic system architecture, likely for a medical device, featuring a central bus system and multiple functional modules. Key components and connections include:

- Address Connect A/B/C/D Assys:** These modules interface with the central bus via VADR2, CLKLE, and VADR1 signals. They include components like IC601 BUFFER IC and IC601 BUFFER IC.
- Bridge A/C Assys:** These modules interface with the central bus via VADR2, CLKLE, and VADR1 signals. They include components like IC601 BUFFER IC and IC601 BUFFER IC.
- Thermal Sensor Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes a thermal sensor (TE1) and a thermal sensor driver (IC101).
- Scan A/B Assys:** These modules interface with the central bus via VADR2, CLKLE, and VADR1 signals. They include components like IC601 BUFFER IC and IC601 BUFFER IC.
- Side Key Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes a side key (SW1) and a side key driver (IC101).
- Key Connector Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes a key connector (KL1, KL2) and a key connector driver (IC101).
- IR Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes an IR sensor (RE1) and an IR sensor driver (IC101).
- SP Out R Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes a speaker (SPR1) and a speaker driver (IC101).
- Control Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes a control unit (C1) and a control driver (IC101).
- RGB Assys:** This module interfaces with the central bus via VADR2, CLKLE, and VADR1 signals. It includes an RGB display (R1, R2, R3, R4, R5, R6, R7, R8, R9, R10, R11, R12, R13, R14, R15, R16, R17, R18, R19, R20, R21, R22, R23, R24, R25, R26, R27, R28, R29, R30, R31, R32, R33, R34, R35, R36, R37, R38, R39, R40, R41, R42, R43, R44, R45, R46, R47, R48, R49, R50, R51, R52, R53, R54, R55, R56, R57, R58, R59, R60, R61, R62, R63, R64, R65, R66, R67, R68, R69, R70, R71, R72, R73, R74, R75, R76, R77, R78, R79, R80, R81, R82, R83, R84, R85, R86, R87, R88, R89, R90, R91, R92, R93, R94, R95, R96, R97, R98, R99, R100, R101, R102, R103, R104, R105, R106, R107, R108, R109, R110, R111, R112, R113, R114, R115, R116, R117, R118, R119, R120, R121, R122, R123, R124, R125, R126, R127, R128, R129, R130, R131, R132, R133, R134, R135, R136, R137, R138, R139, R140, R141, R142, R143, R144, R145, R146, R147, R148, R149, R150, R151, R152, R153, R154, R155, R156, R157, R158, R159, R160, R161, R162, R163, R164, R165, R166, R167, R168, R169, R170, R171, R172, R173, R174, R175, R176, R177, R178, R179, R180, R181, R182, R183, R184, R185, R186, R187, R188, R189, R190, R191, R192, R193, R194, R195, R196, R197, R198, R199, R200, R201, R202, R203, R204, R205, R206, R207, R208, R209, R210, R211, R212, R213, R214, R215, R216, R217, R218, R219, R220, R221, R222, R223, R224, R225, R226, R227, R228, R229, R230, R231, R232, R233, R234, R235, R236, R237, R238, R239, R240, R241, R242, R243, R244, R245, R246, R247, R248, R249, R250, R251, R252, R253, R254, R255, R256, R257, R258, R259, R260, R261, R262, R263, R264, R265, R266, R267, R268, R269, R270, R271, R272, R273, R274, R275, R276, R277, R278, R279, R280, R281, R282, R283, R284, R285, R286, R287, R288, R289, R290, R291, R292, R293, R294, R295, R296, R297, R298, R299, R300, R301, R302, R303, R304, R305, R306, R307, R308, R309, R310, R311, R312, R313, R314, R315, R316, R317, R318, R319, R320, R321, R322, R323, R324, R325, R326, R327, R328, R329, R330, R331, R332, R333, R334, R335, R336, R337, R338, R339, R340, R341, R342, R343, R344, R345, R346, R347, R348, R349, R350, R351, R352, R353, R354, R355, R356, R357, R358, R359, R360, R361, R362, R363, R364, R365, R366, R367, R368, R369, R370, R371, R372, R373, R374, R375, R376, R377, R378, R379, R380, R381, R382, R383, R384, R385, R386, R387, R388, R389, R390, R391, R392, R393, R394, R395, R396, R397, R398, R399, R400, R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R411, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698,



F





4.1.3 VIDEO SIGNAL ROUTE

A

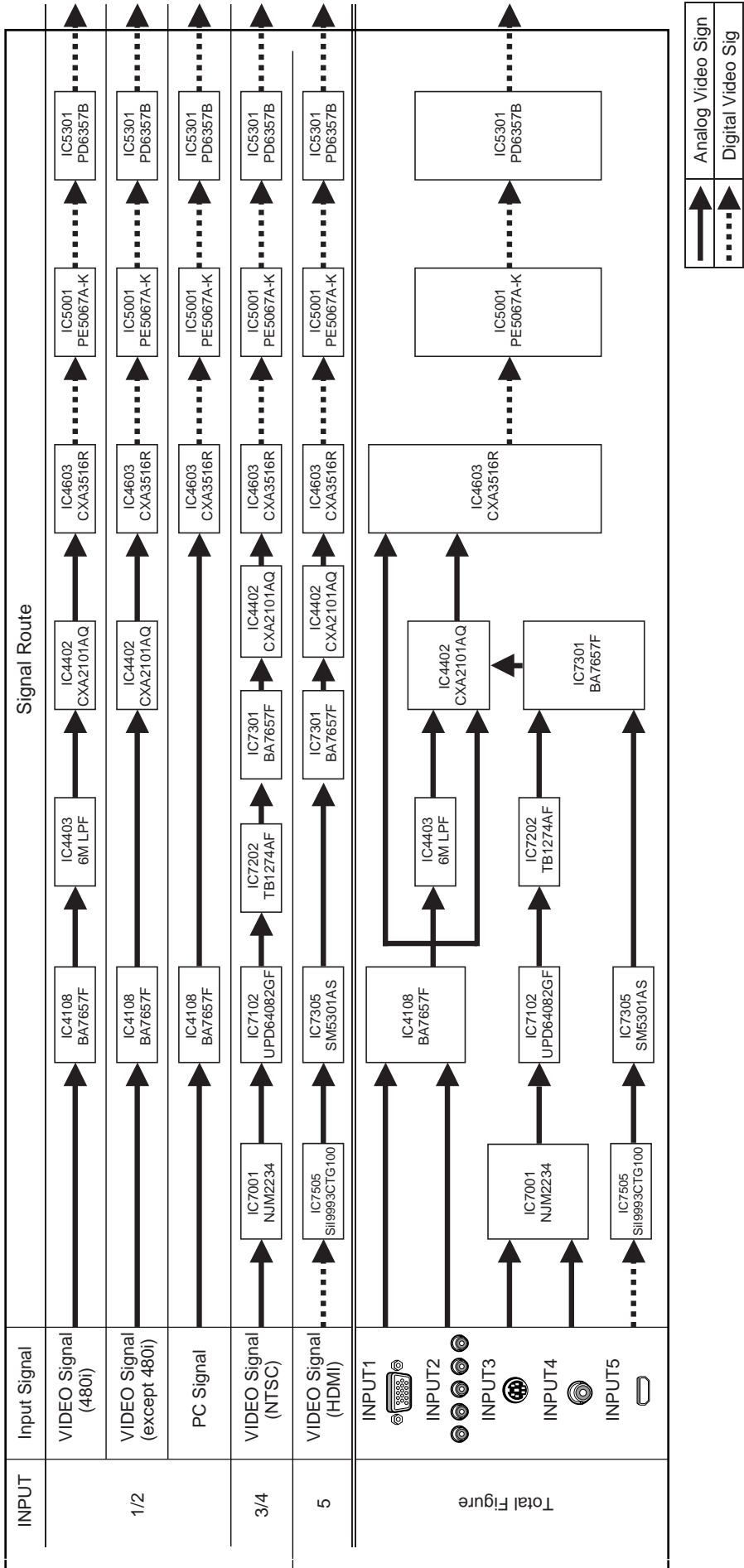
B

C

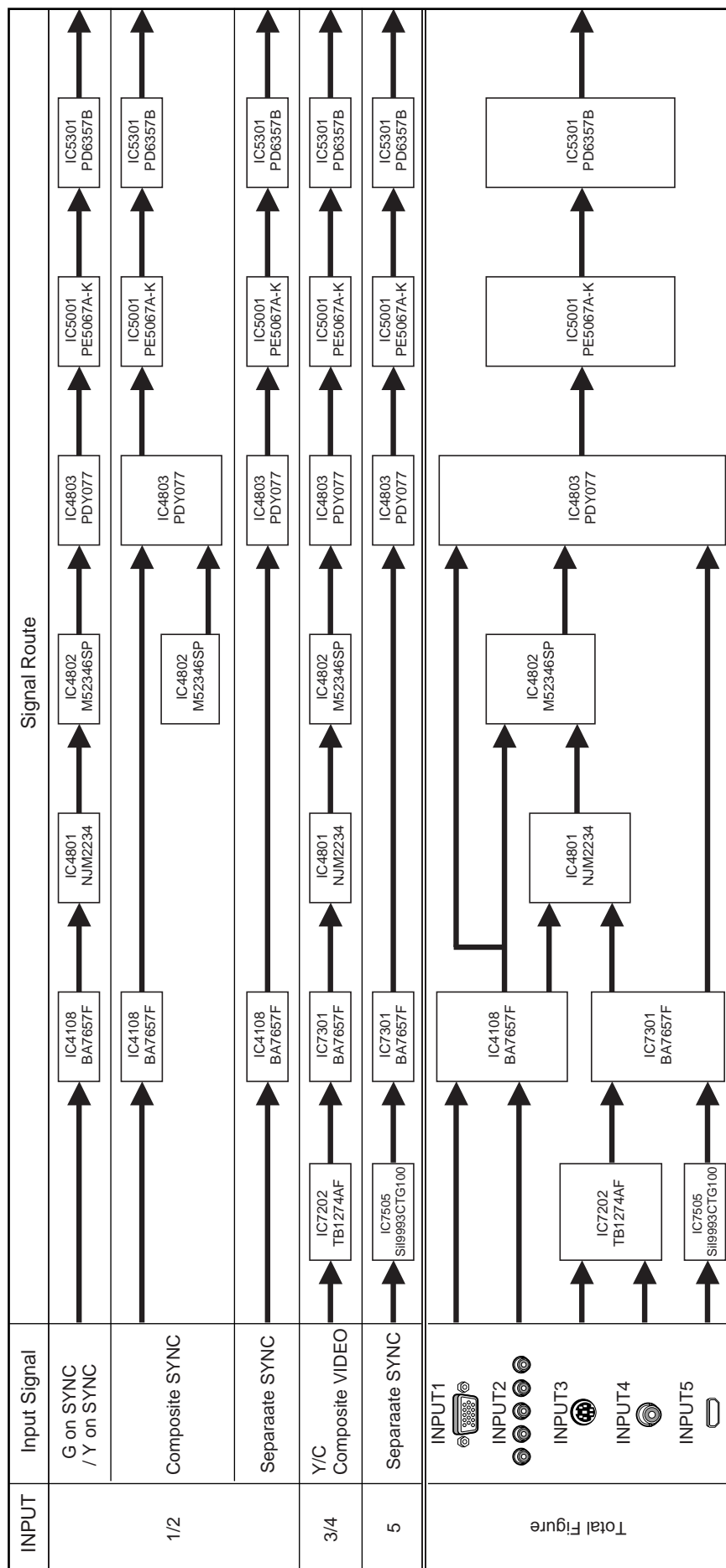
D

E

F

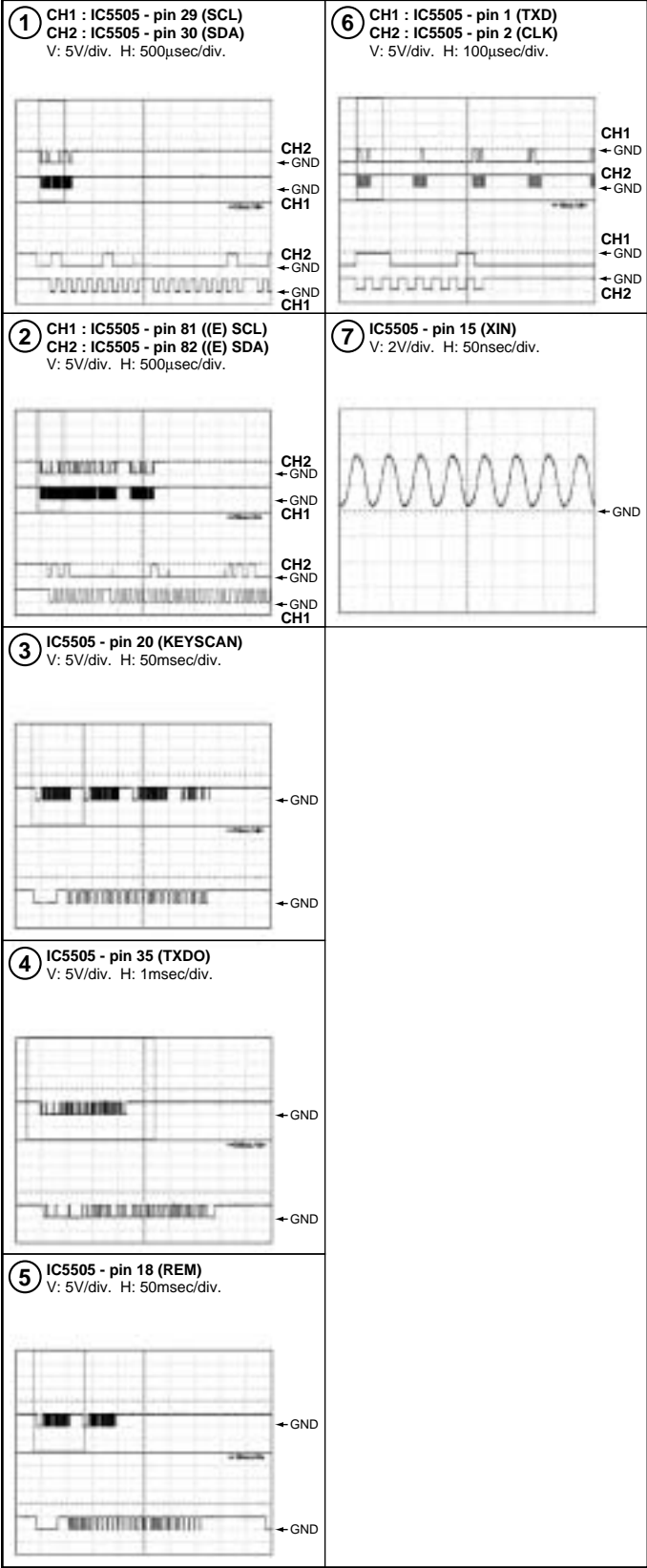


4.1.4 SYNC SIGNAL ROUT



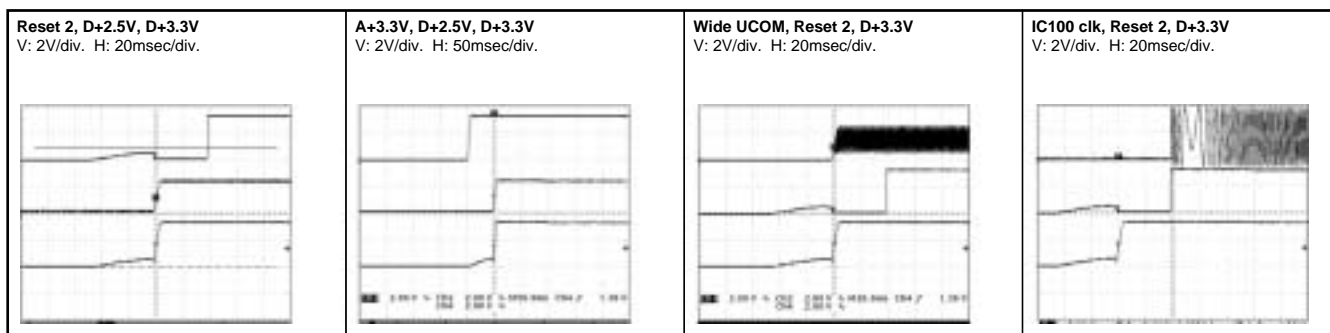
4.2 WAVEFORMS

RGB ASSY

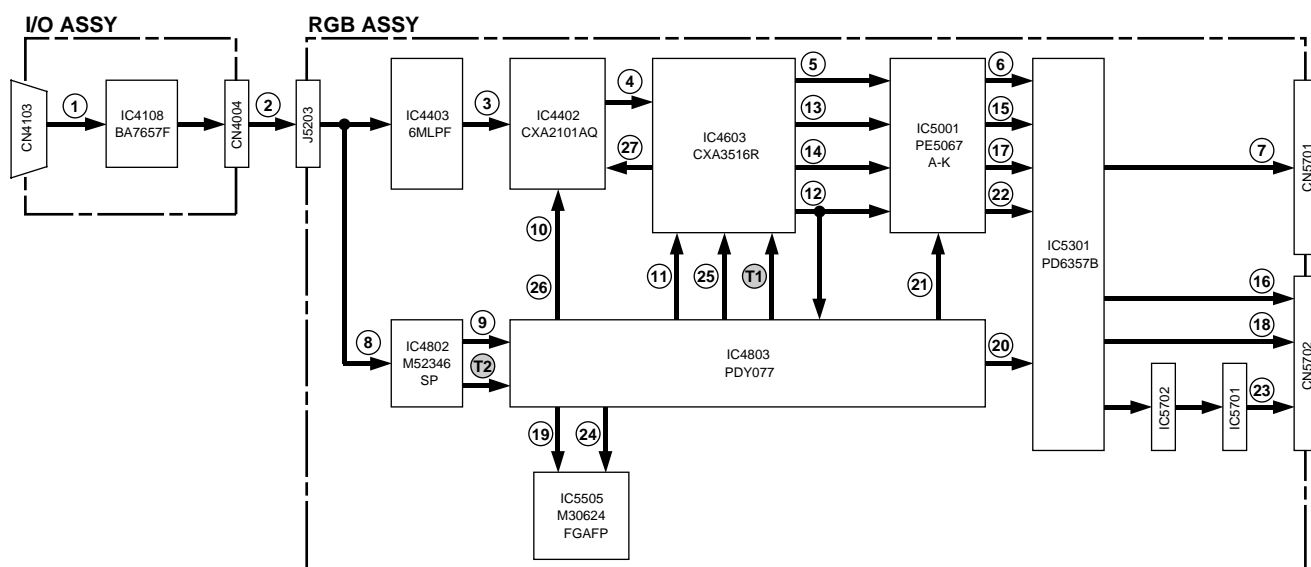


RGB VIDEO Signal Waveforms

Waveform at Power ON



Measurement Point



Trigger Signal

- T1 K4805 (HD_PLL) : For Horizontal Sync. Signal
- T2 IC4802 - pin 13 : For Vertical Sync. Signal

Measurement Condition

① to ②⑦ :

Input : INPUT 1 (Component)
 Input Signal : 480i
 Signal Pattern : H RAMP
 Screen Mode : WIDE
 Clamp Mode : AUTO
 Color Mode : COLOR MODE 1

②⑧ to ②⑨ :

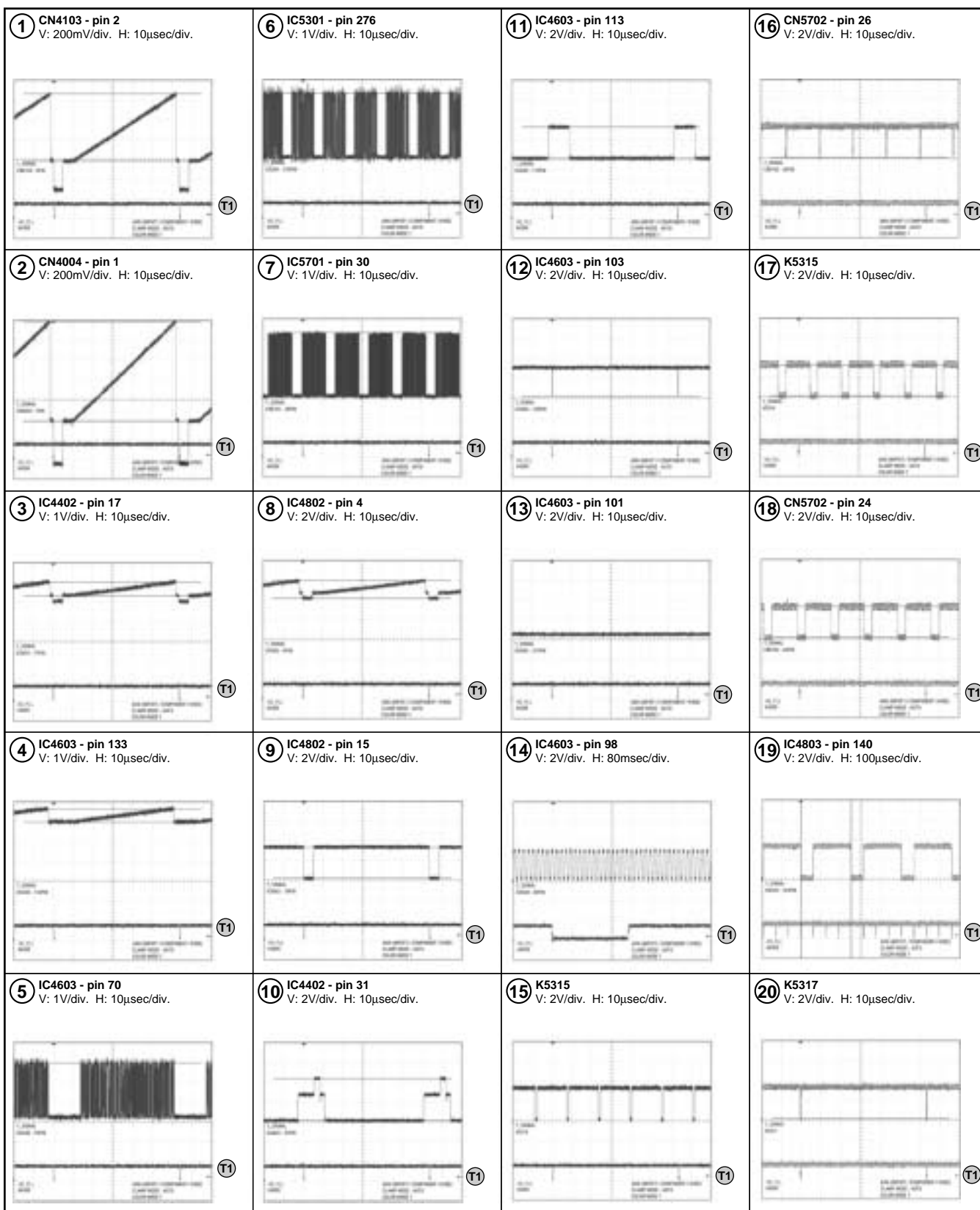
Input : INPUT 2 (RGBHV)
 Input Signal : XGA@60Hz
 Signal Pattern : Monoscope
 Screen Mode : FULL
 Clamp Mode : AUTO
 Color Mode : COLOR MODE 1

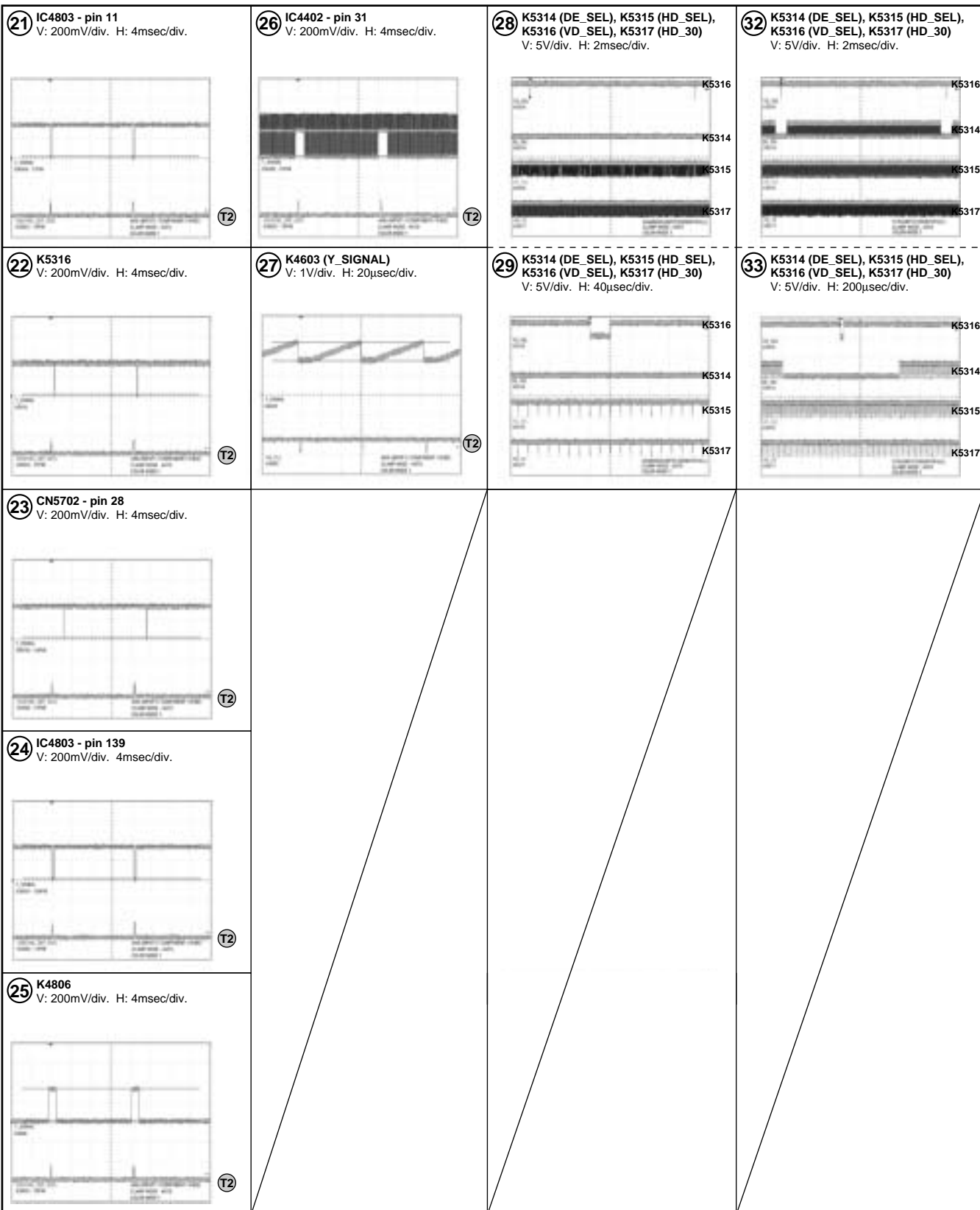
③② to ③③ :

Input : INPUT 2 (RGBHV)
 Input Signal : 1125i
 Signal Pattern : Monoscope
 Screen Mode : FULL
 Clamp Mode : AUTO
 Color Mode : COLOR MODE 1

● Information

NO.	Point	Information	Trigger Signal (CH4)
1	CN4103 - pin 2	Synchronize with K4805 (HD_PLL)	T1
2	CN4004 - pin 1	Synchronize with K4805 (HD_PLL)	T1
3	IC4402 - pin 17	Synchronize with K4805 (HD_PLL)	T1
4	IC4603 - pin 133	Synchronize with K4805 (HD_PLL)	T1
5	IC4603 - pin 70	Synchronize with K4805 (HD_PLL)	T1
6	IC5301 - pin 276	Synchronize with K4805 (HD_PLL) and frequency is 4 times.	T1
7	IC5701 - pin 30	Do not synchronize with K4805 (HD_PLL)	T1
8	IC4802 - pin 4	Synchronize with K4805 (HD_PLL)	T1
9	IC4802 - pin 15	Synchronize with K4805 (HD_PLL)	T1
10	IC4402 - pin 31	Synchronize with K4805 (HD_PLL)	T1
11	IC4603 - pin 113	Synchronize with K4805 (HD_PLL)	T1
12	IC4603 - pin 103	Synchronize with K4805 (HD_PLL)	T1
13	IC4603 - pin 101	No output	T1
14	IC4603 - pin 98	Clock signal that synchronizes with K4805 (HD_PLL)	T1
15	K5315 (HD_SEL)	Synchronize with K4805 (HD_PLL) and frequency is 4 times.	T1
16	CN5702 - pin 26	Do not synchronize with K4805 (HD_PLL)	T1
17	K5314 (DE_SEL)	Synchronize with K4805 (HD_PLL) and frequency is 4 times.	T1
18	CN5702 - pin 24	Do not synchronize with K4805 (HD_PLL)	T1
19	IC4803 - pin 140	Synchronize with K4805 (HD_PLL) and frequency is 1/4 times.	T1
20	K5317 (HD_SEL)	Synchronize with K4805 (HD_PLL)	T1
21	IC4803 - pin 11	Synchronize with IC4802 - pin 13	T2
22	K5316 (VD_SEL)	Synchronize with IC4802 - pin 13	T2
23	CN5702 - pin 28	Synchronize with IC4802 - pin 13	T2
24	IC4803 - pin 139	Synchronize with IC4802 - pin 13	T2
25	K4806	Synchronize with IC4802 - pin 13	T2
26	IC4402 - pin 31	Synchronize with IC4802 - pin 13	T2
27	K4603 (Y_SIGNAL)	Synchronize with IC4802 - pin 13	T2
28	K5314 (DE_SEL)	K5314 (DE_SEL) is fixed to "L" level in the PC signal indication. K5315 (HD_SEL) and k 5317 (HD _ 30) synchronize with K5316 (VD_SEL).	K5316 (VD_SEL)
	K5315 (HD_SEL)		
	K5316 (VD_SEL)		
	K5317 (HD_30)		
29	K5314 (DE_SEL)	Magnified K5316 (VD_SEL) section of No. 28. K5315 (HD_SEL) and K5317 (HD _ 30) are the same frequency in the PC signal indication.	K5316 (VD_SEL)
	K5315 (HD_SEL)		
	K5316 (VD_SEL)		
	K5317 (HD_30)		
30	K5314 (DE_SEL)	K5314 (DE_SEL) is not fixed to "L" level in the PC signal indication by the DVI input. K5314 (DE_SEL), K5315 (HD_SEL) and k 5317 (HD_30) synchronize with K5316 (VD_SEL).	K5316 (VD_SEL)
	K5315 (HD_SEL)		
	K5316 (VD_SEL)		
	K5317 (HD_30)		
31	K5314 (DE_SEL)	Magnified K5316 (VD_SEL) section of No. 30. K5314 (DE_SEL), K5315 (HD_SEL) and K5317 (HD_30) are the same frequency in the PC signal indication by the DVI input.	K5316 (VD_SEL)
	K5315 (HD_SEL)		
	K5316 (VD_SEL)		
	K5317 (HD_30)		
32	K5314 (DE_SEL)	K5314 (DE_SEL) is not fixed to "L" level in the 1125i indication. K5314 (DE_SEL), K5315 (HD_SEL) and k 5317 (HD _ 30) synchronize with K5316 (VD_SEL).	K5316 (VD_SEL)
	K5315 (HD_SEL)		
	K5316 (VD_SEL)		
	K5317 (HD_30)		
33	K5314 (DE_SEL)	Magnified K5316 (VD_SEL) section of No. 32. Frequency of 2 times of K5314 (DE_SEL), K5315 (HD_SEL) and K5317 (HD_30) in the 1125i indication.	K5316 (VD_SEL)
	K5315 (HD_SEL)		
	K5316 (VD_SEL)		
	K5317 (HD_30)		

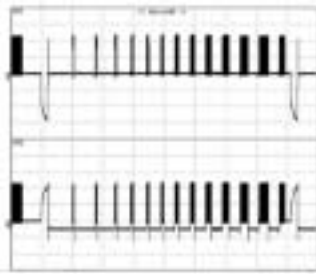




Sustain Waveforms

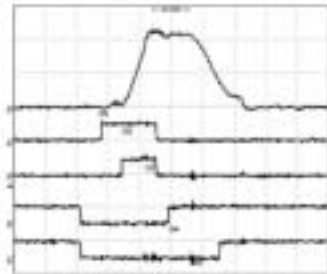
● Sustain Waveform (1 field)

ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 100V/div. H: 2msec/div.
ch 2 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 100V/div. H: 2msec/div.



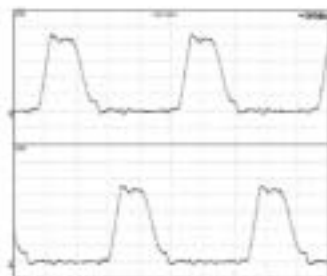
● Sustain Waveform

ch 1 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 100V/div. H: 500nsec/div.
ch 2 : K2028 (YSUS_U) - K2024 (DGND)
V: 10V/div. H: 500nsec/div.
ch 3 : K2027 (YSUS_B) - K2024 (DGND)
V: 10V/div. H: 500nsec/div.
ch 4 : K2029 (YSUS_D) - K2024 (DGND)
V: 10V/div. H: 500nsec/div.
ch 5 : K2037 (YSUS_G) - K2024 (DGND)
V: 10V/div. H: 500nsec/div.



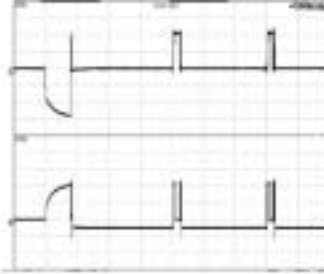
● Sustain Waveform (1 field)

ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 50V/div. H: 1μsec/div.
ch 2 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 50V/div. H: 1μsec/div.



● Sustain Waveform (1 sub-field)

ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 100V/div. H: 500μsec/div.
ch 2 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 100V/div. H: 500μsec/div.



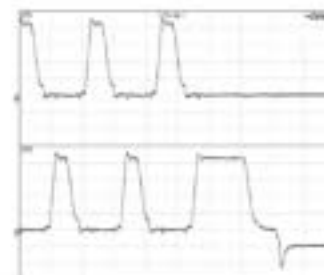
● Sustain Waveform (sustain)

ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 50V/div. H: 5μsec/div.
ch 2 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 50V/div. H: 5μsec/div.



● Sustain Waveform (sustain)

ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 50V/div. H: 2μsec/div.
ch 2 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 50V/div. H: 2μsec/div.



● Sustain Waveform (reset pulse)

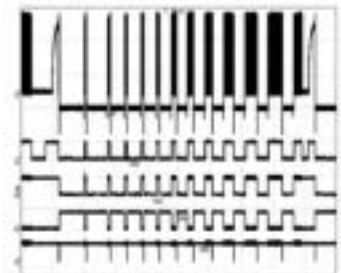
ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 100V/div. H: 5μsec/div.
ch 2 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 100V/div. H: 5μsec/div.



Drive Pulse Waveforms

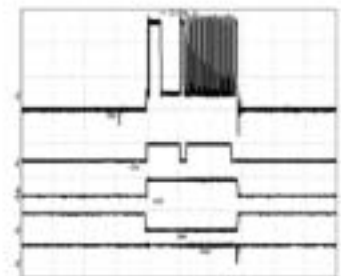
● Y Drive Pulse Control Waveform (1 field)

ch 1 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 100V/div. H: 2msec/div.
ch 2 : K2039 (YCP_MSK) - K2024 (DGND)
V: 10V/div. H: 2msec/div.
ch 3 : K2040 (YSUS_MSK) - K2024 (DGND)
V: 10V/div. H: 2msec/div.
ch 4 : K2041 (OFS) - K2024 (DGND)
V: 10V/div. H: 2msec/div.
ch 5 : K2053 (SOFT_D) - K2024 (DGND)
V: 10V/div. H: 2msec/div.



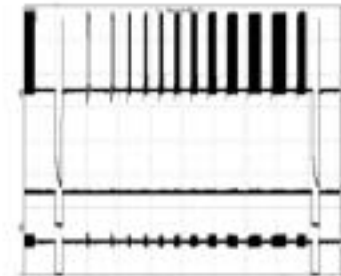
● Y Drive Pulse Control Waveform (1 sub-field)

ch 1 : K2220 (Y.PSUS) - K2219 (SUSGND)
V: 100V/div. H: 50μsec/div.
ch 2 : K2039 (YCP_MSK) - K2024 (DGND)
V: 10V/div. H: 50μsec/div.
ch 3 : K2040 (YSUS_MSK) - K2024 (DGND)
V: 10V/div. H: 50μsec/div.
ch 4 : K2041 (OFS) - K2024 (DGND)
V: 10V/div. H: 50μsec/div.
ch 5 : K2053 (SOFT_D) - K2024 (DGND)
V: 10V/div. H: 50μsec/div.



● X Drive Pulse Control Waveform (1 field)

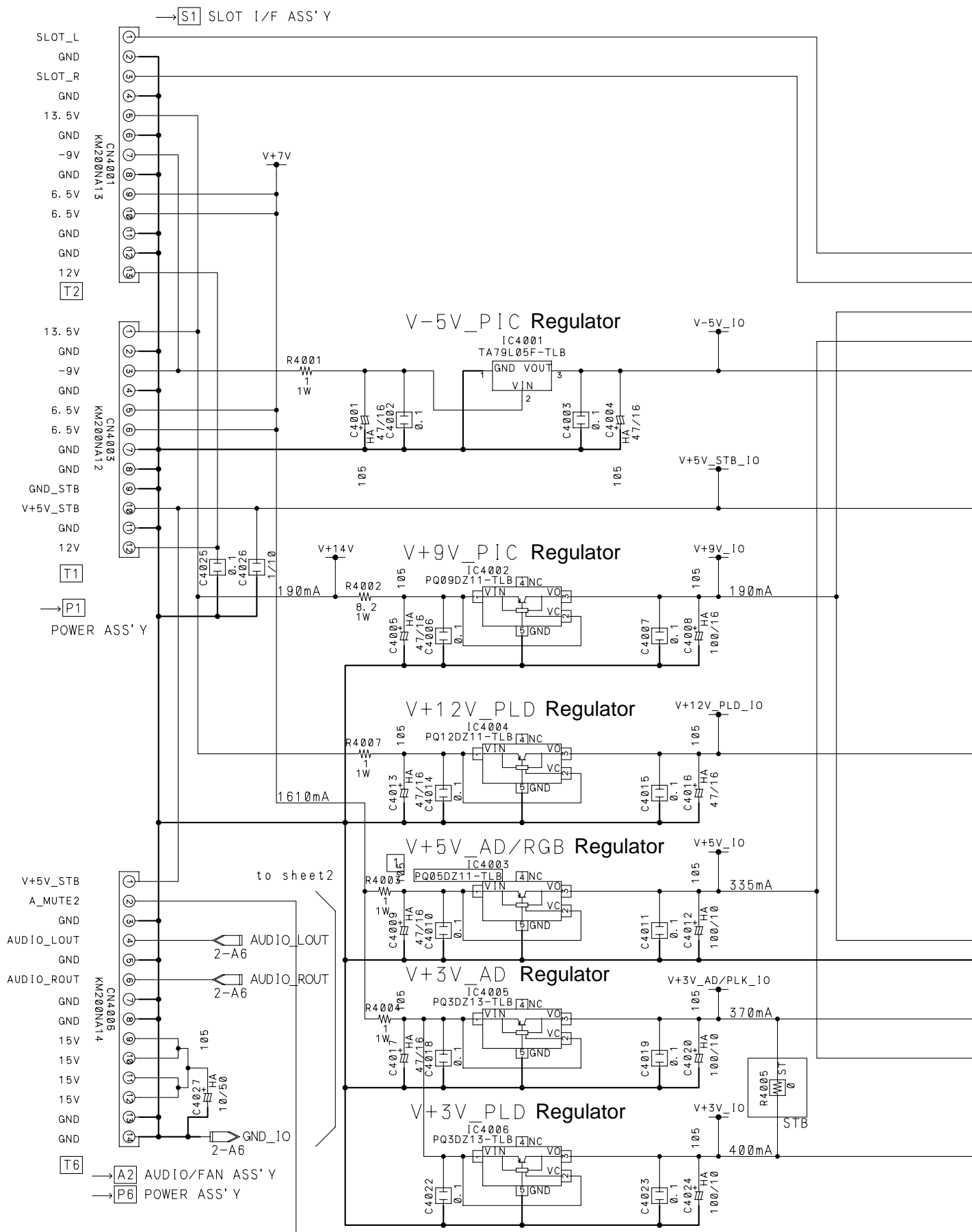
ch 1 : K3107 (X.PSUS) - K3201 (SUSGND)
V: 100V/div. H: 2msec/div.
ch 2 : K3017 (XCP_MSK) - K3005 (DGND)
V: 10V/div. H: 2msec/div.
ch 3 : K3015 (XSUS_MSK) - K3005 (DGND)
V: 5V/div. H: 2msec/div.

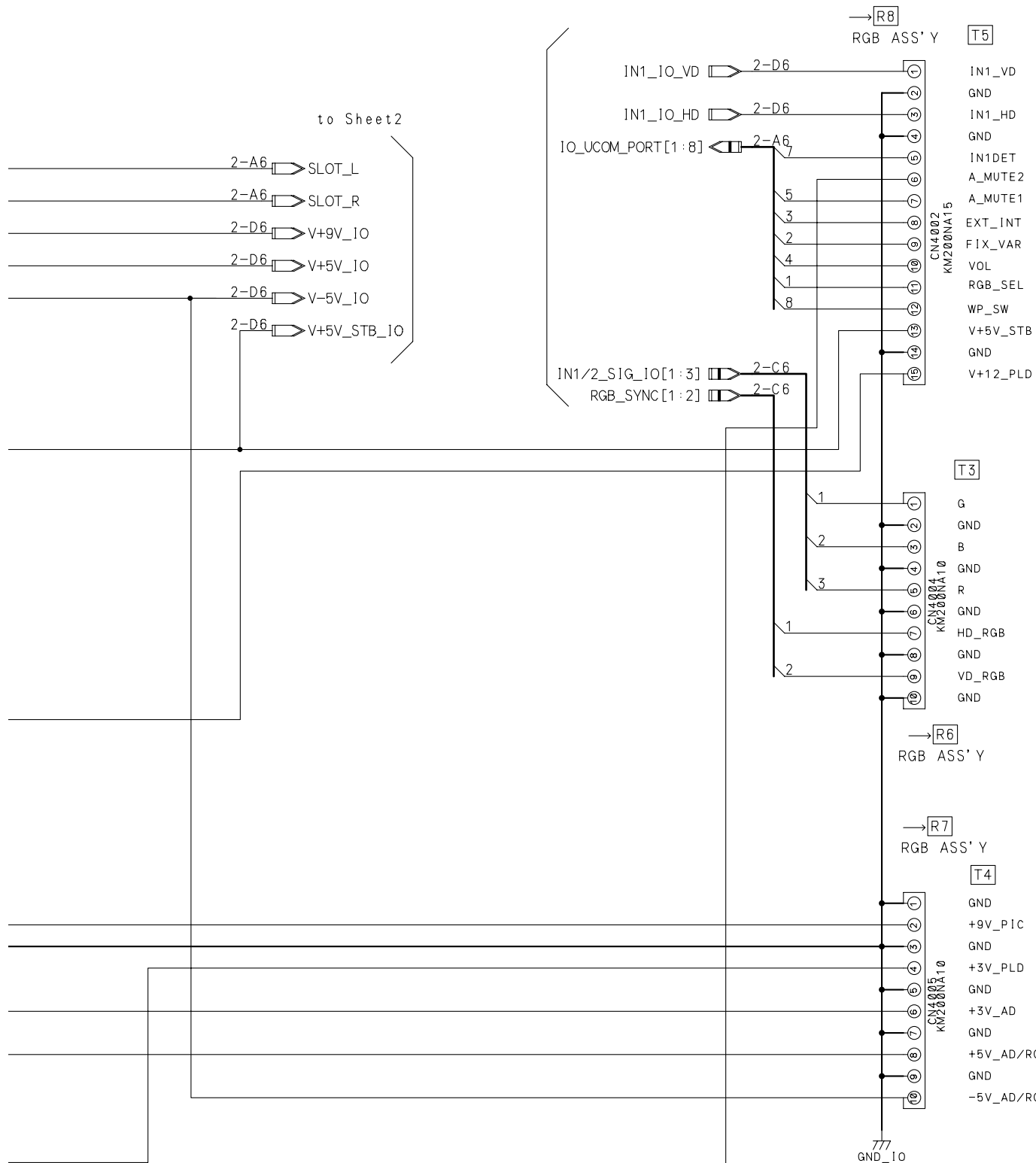


4.3 SCHEMATIC DIAGRAM

4.3.1 I/O ASSY (1/2)

• REG BLOCK

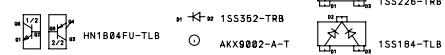
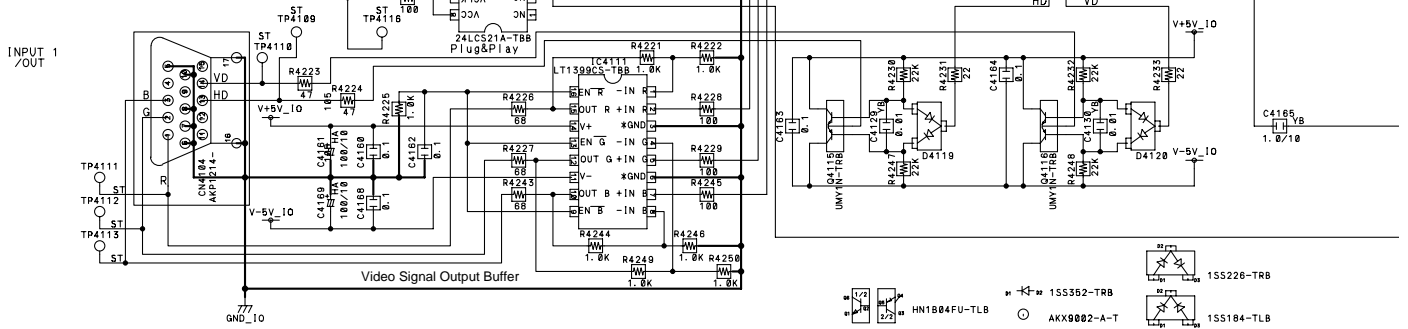
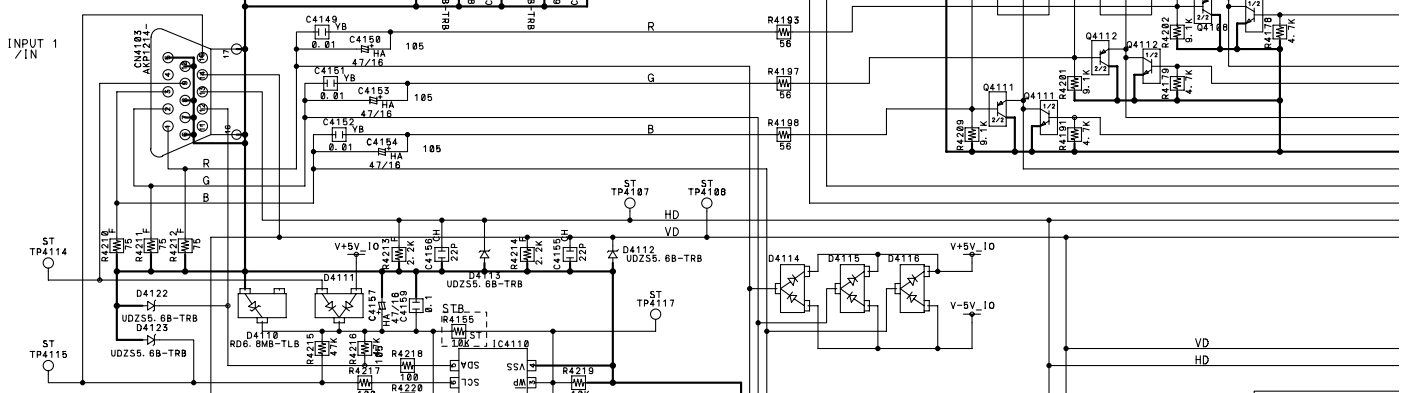
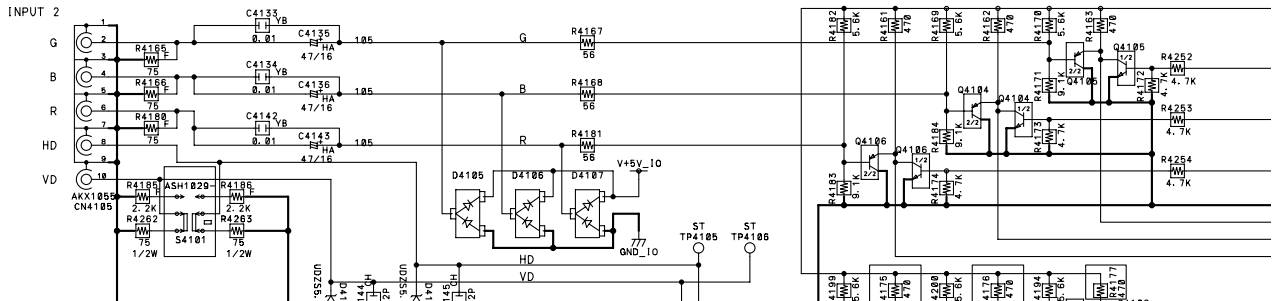
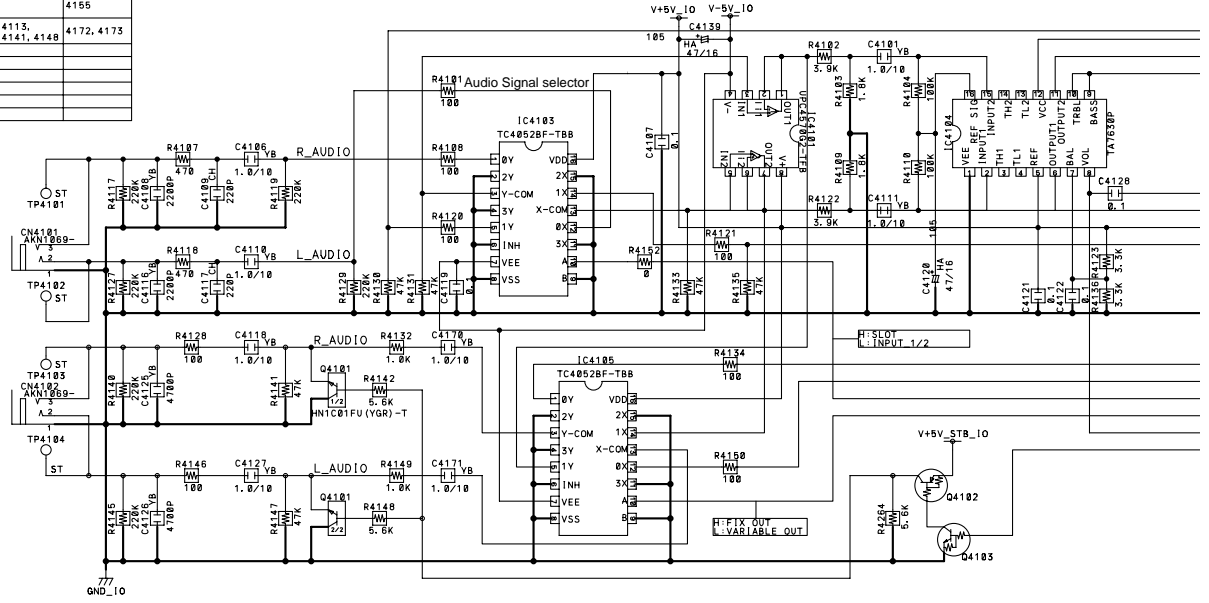


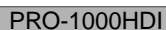


4.3.2 I/O ASSY (2/2)

• RGB I/O BLOCK

ITEM	USED	VACANT	STR
R	4101-4274	4164, 4192, 4284	4155
C	4101-4182	4102, 4103, 4105, 4112, 4113, 4115, 4131, 4132, 4138, 4141, 4148	4172, 4173
IC	4101-4111	4106	
CN	4101-4107		
D	4105-4123	4117, 4118	
Q	4101-4117	4107, 4109, 4110	
S	4101		
TP	4101-4117		




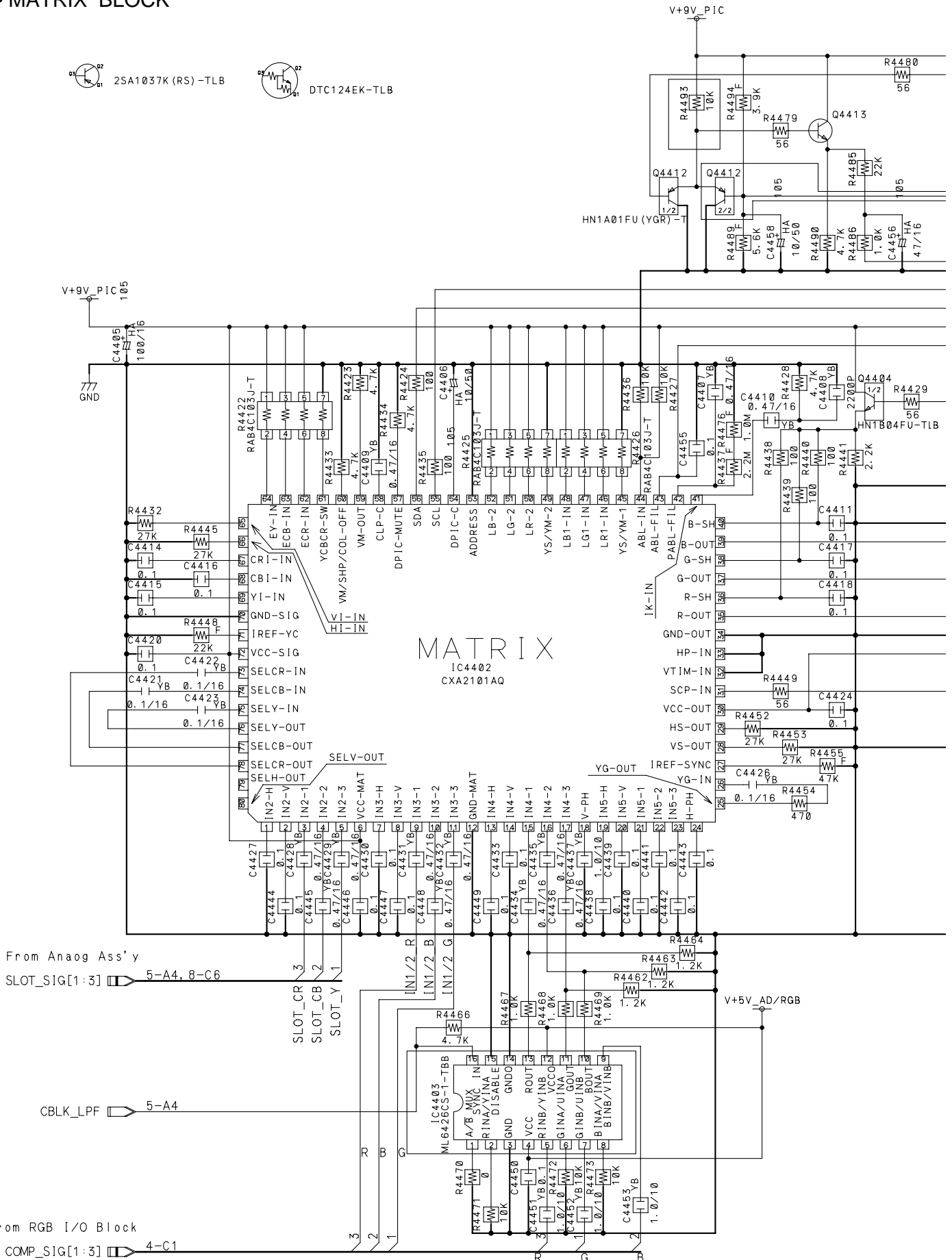


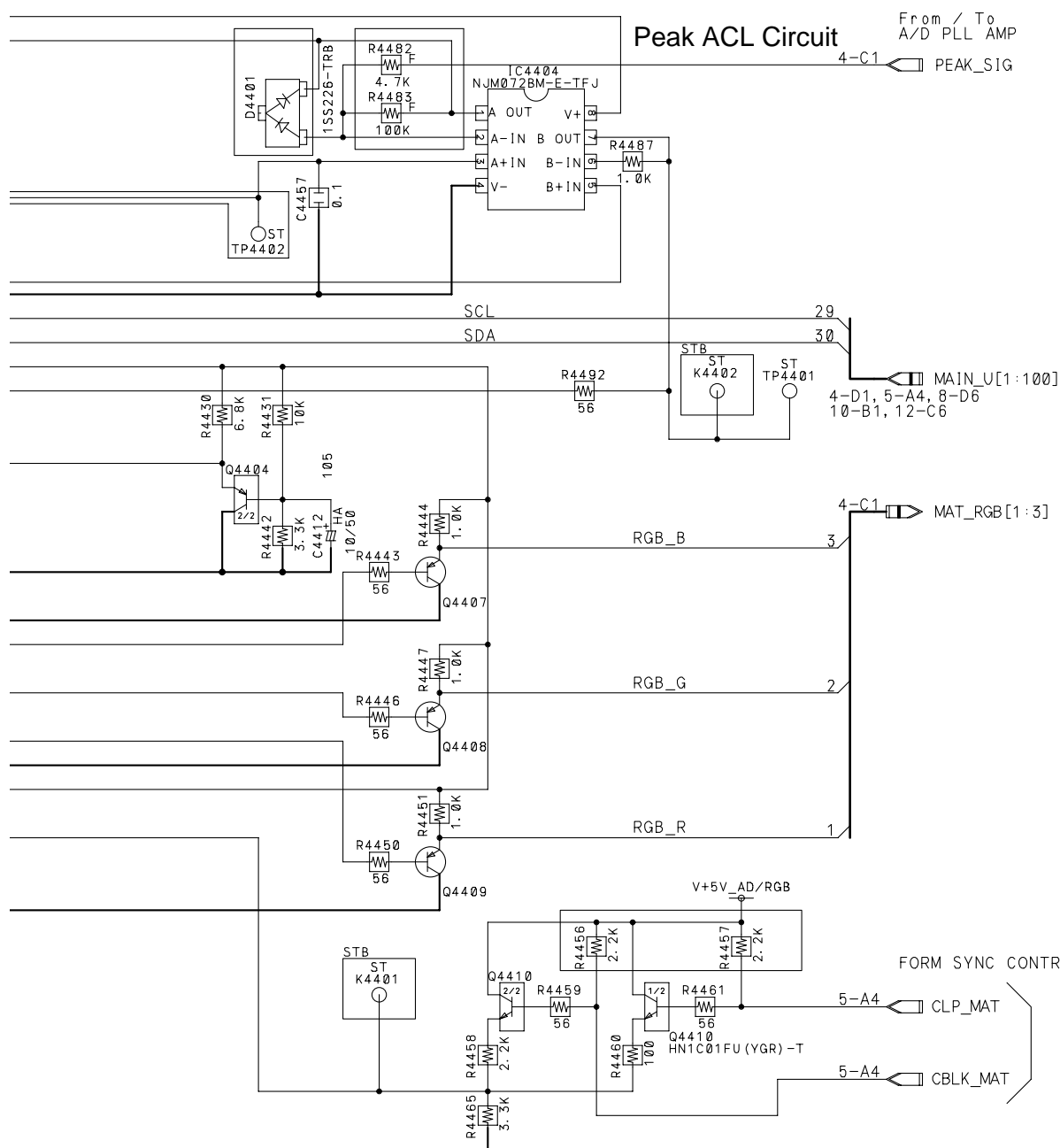
4.3.3 RGB ASSY (1/10)

- MATRIX BLOCK

2SA1037K (RS) - TLB

 DTC124EK-TLB





ITEM	USED	VACANT	STB
R	4422-4494	4474, 4475, 4477, 4478, 4481, 4484, 4488, 4491	
C	4405-4458	4413, 4419, 4425, 4454	
D	4401		
IC	4402-4404		
K	4401, 4402		4401, 4402
Q	4404-4413	4405, 4406, 4411	
TP	4401, 4402		

A



A

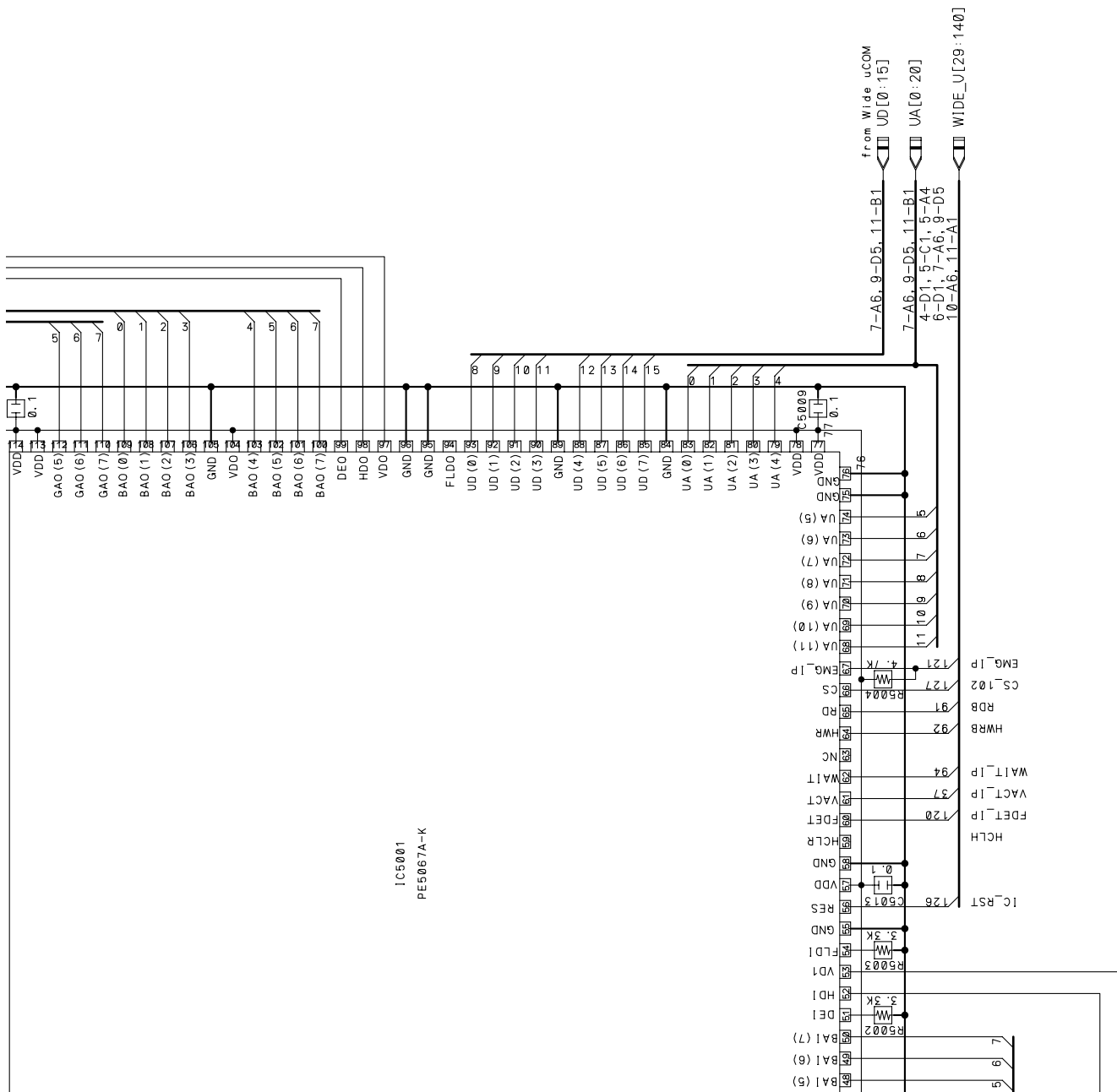


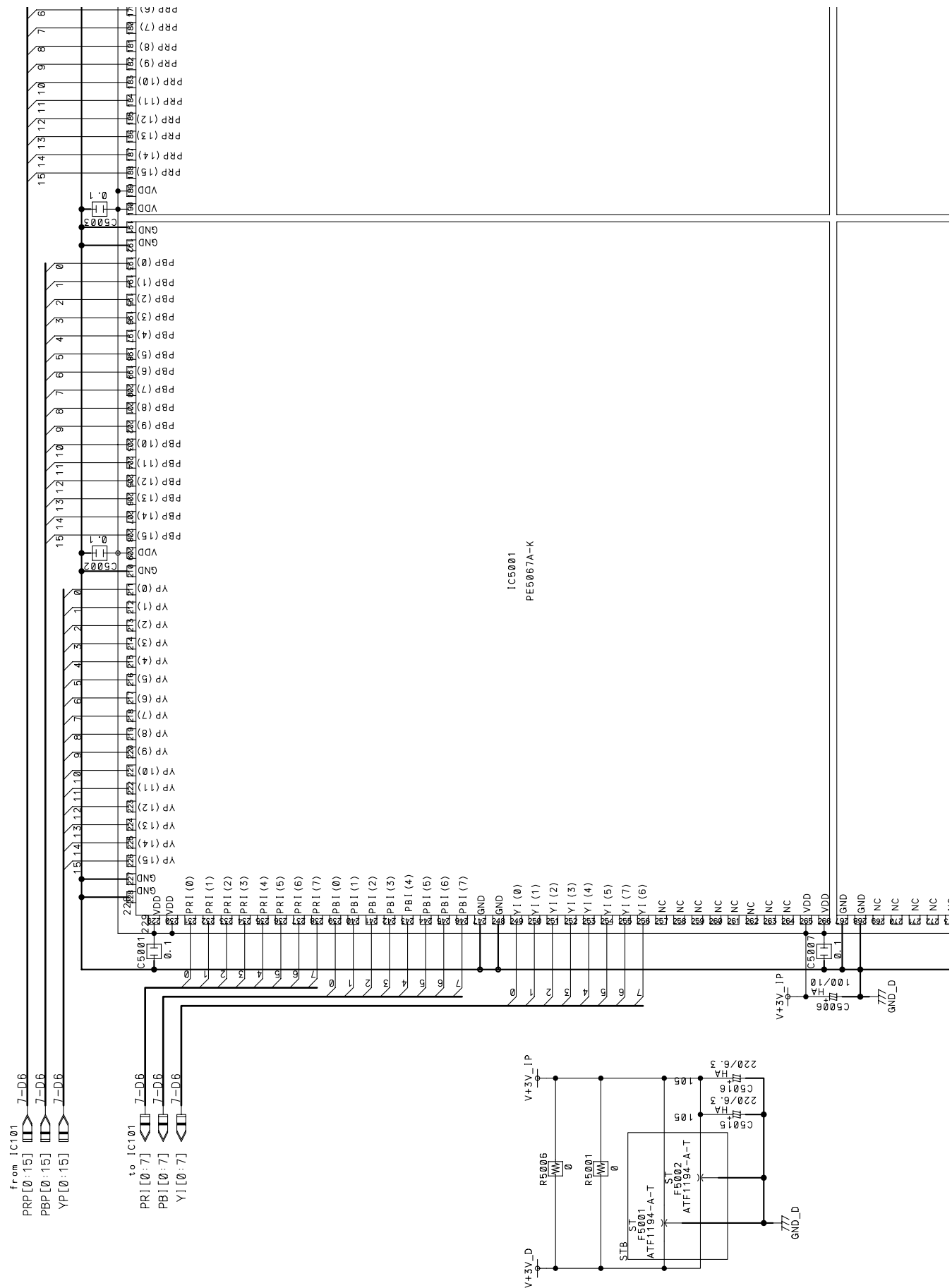
C

D

E

F





4.3.7 RGB ASSY (5/10)

- IP BLOCK (2/2)

A

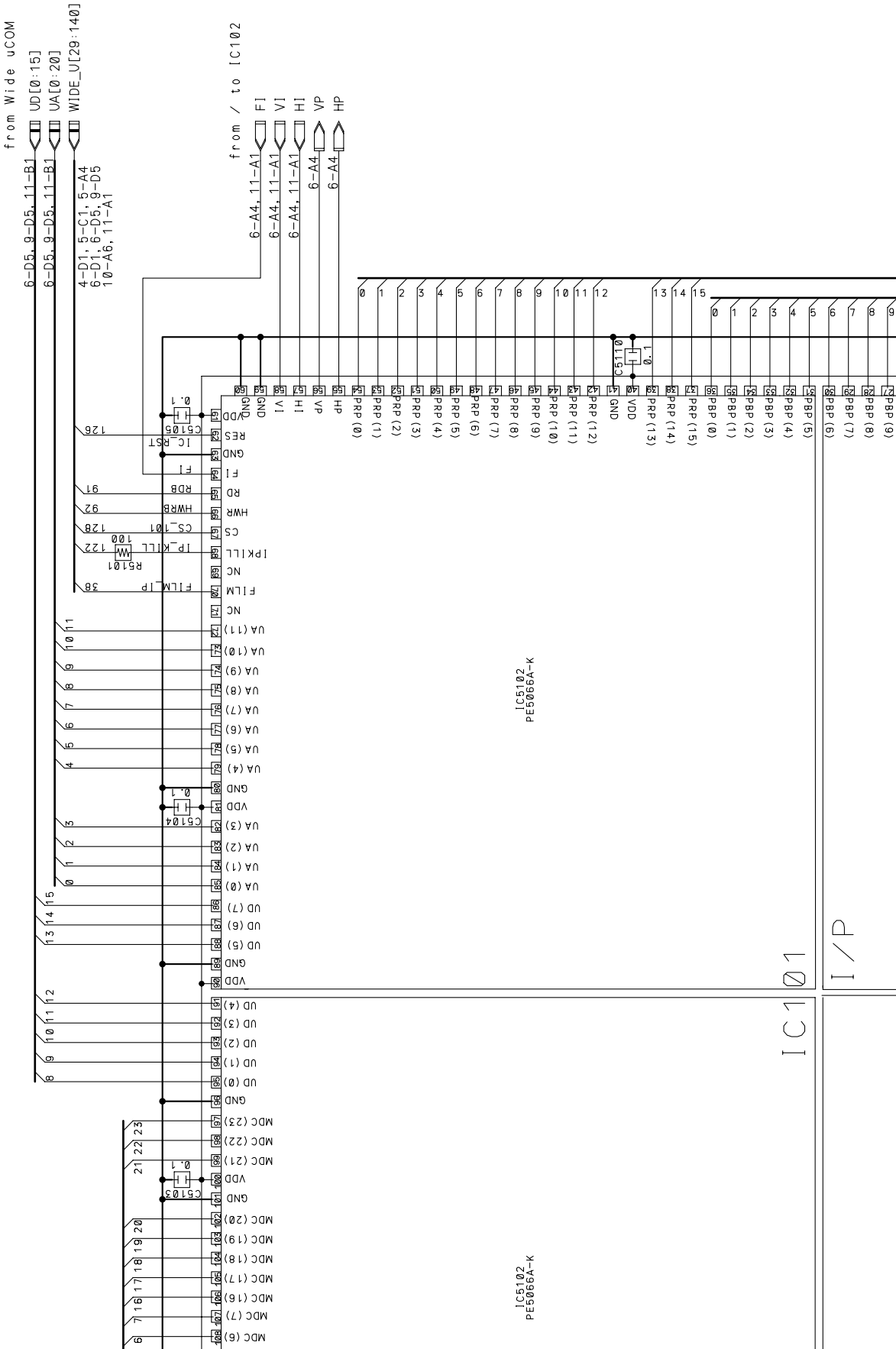
B

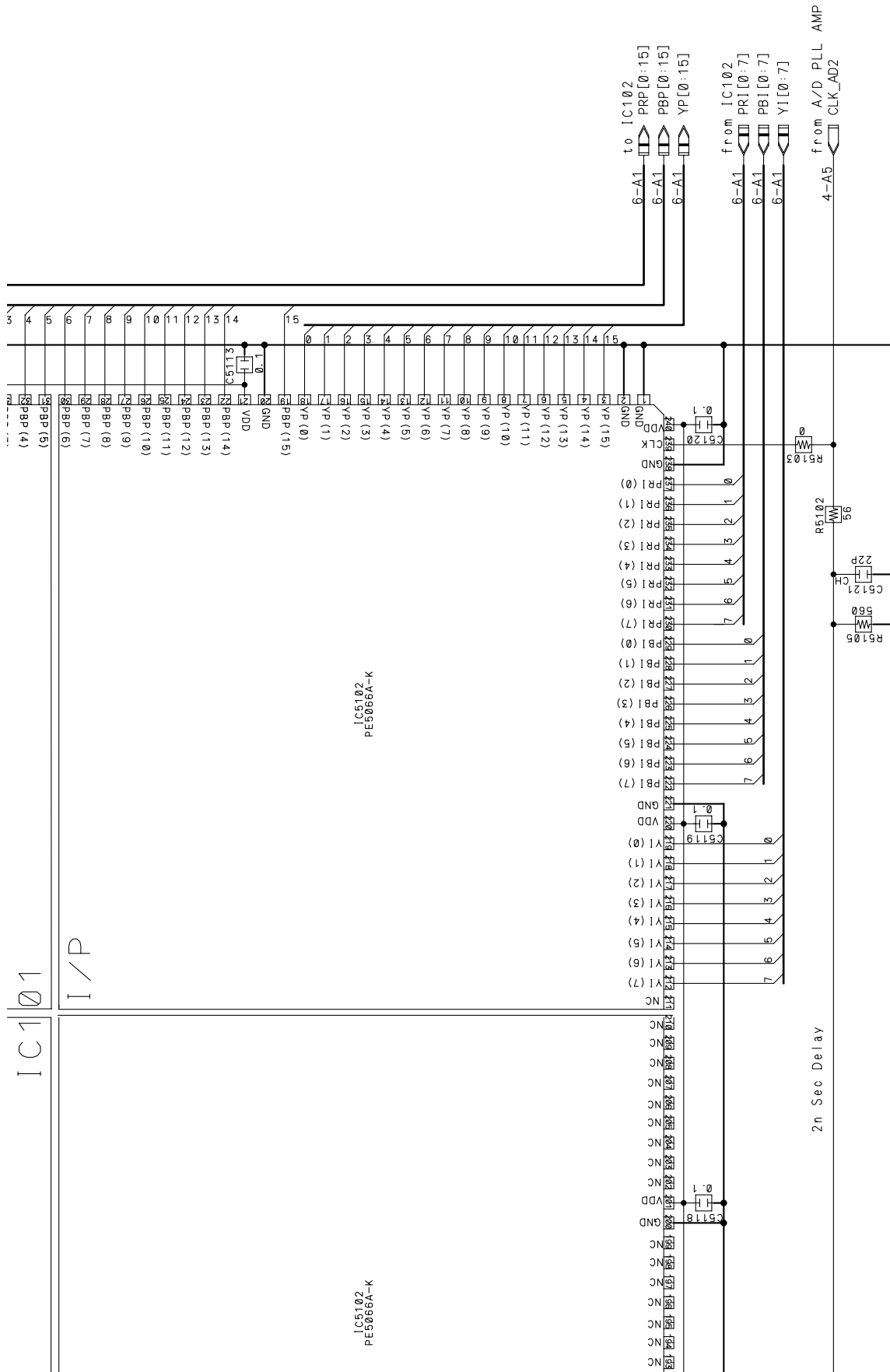
C

D

E

F





ITEM	USED	VACANT	STB
R	5101-5108	5104	5106, (5107), (5108)
C	5101-5121		
IC	5101-5103		

A

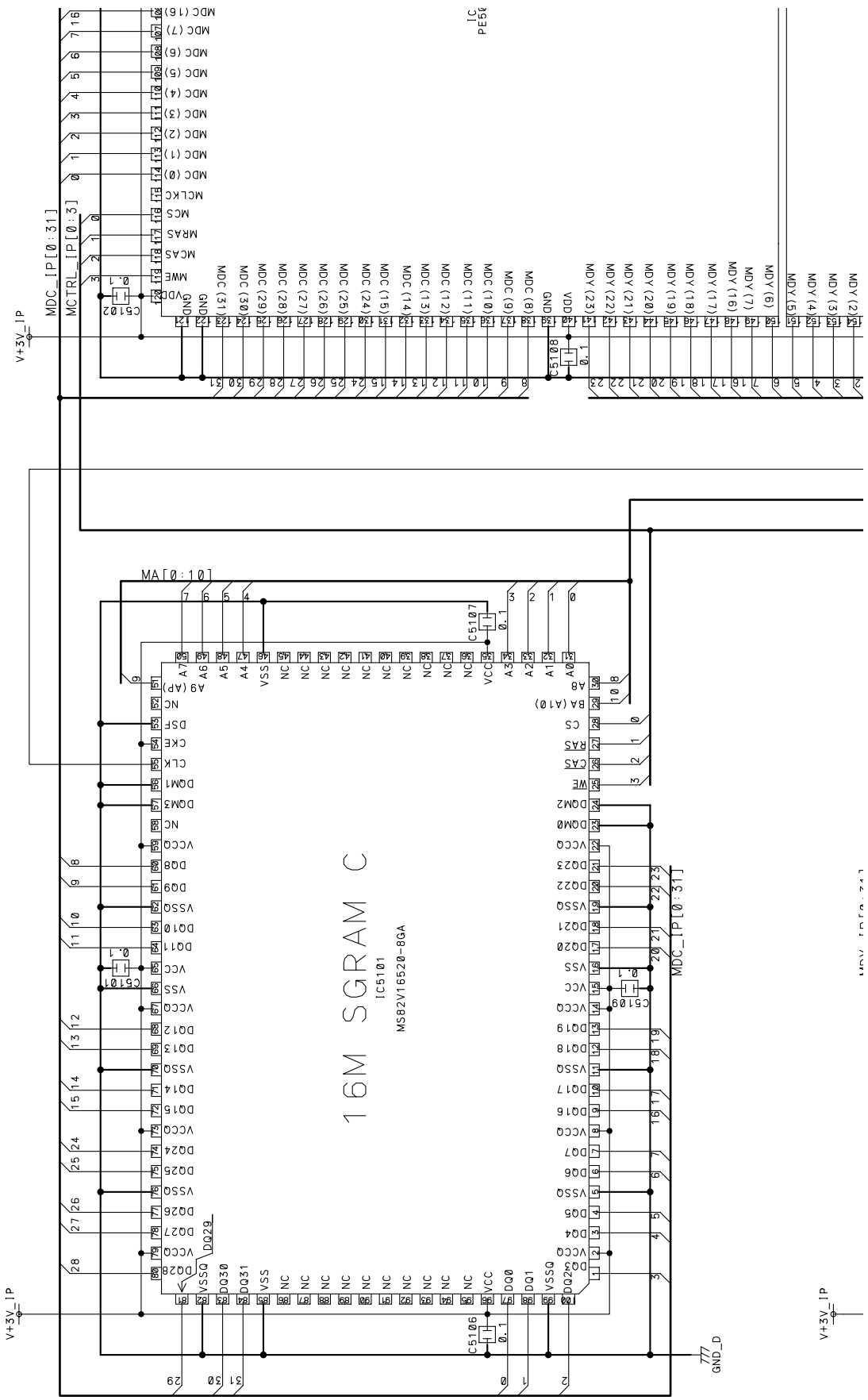
B

C

D

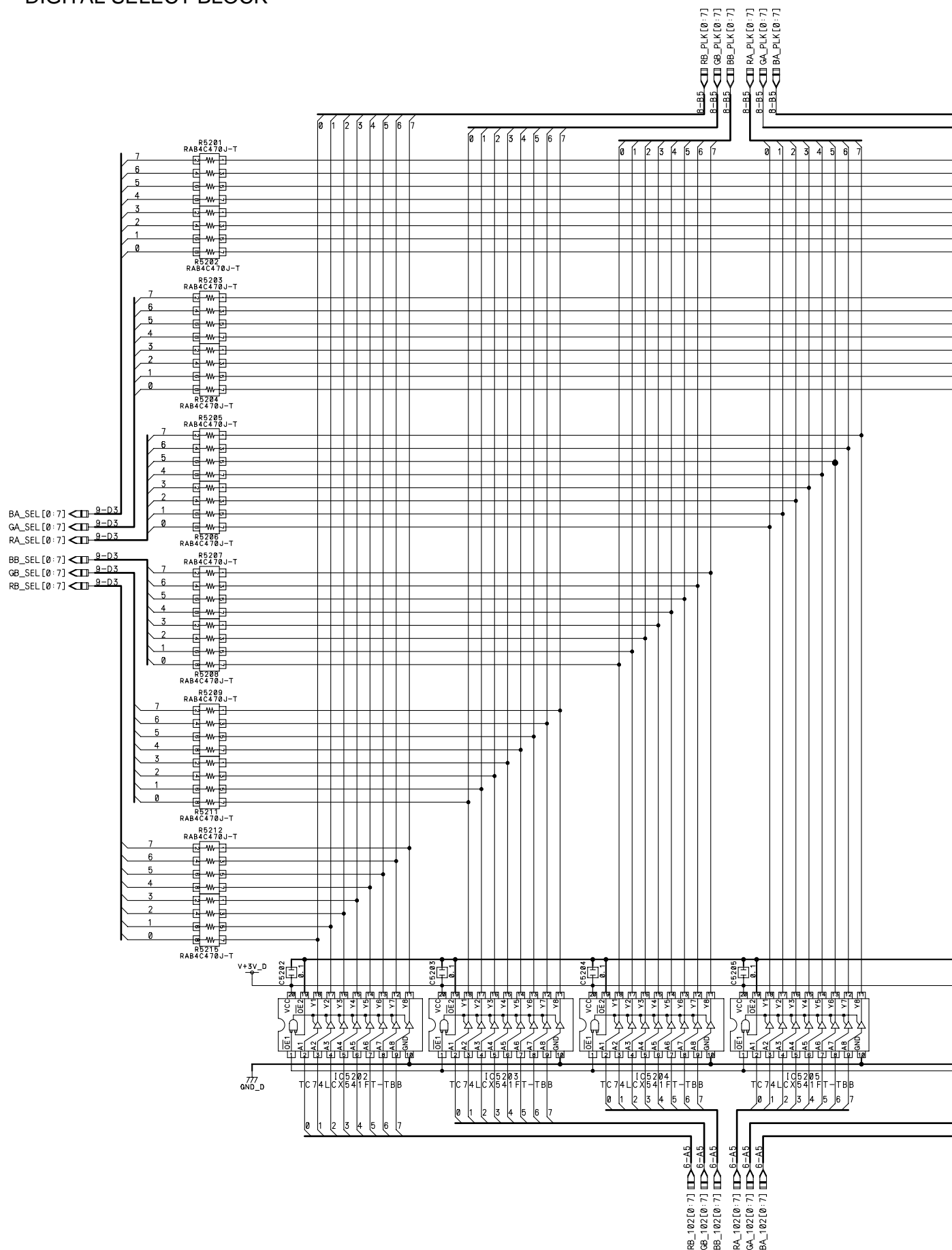
E

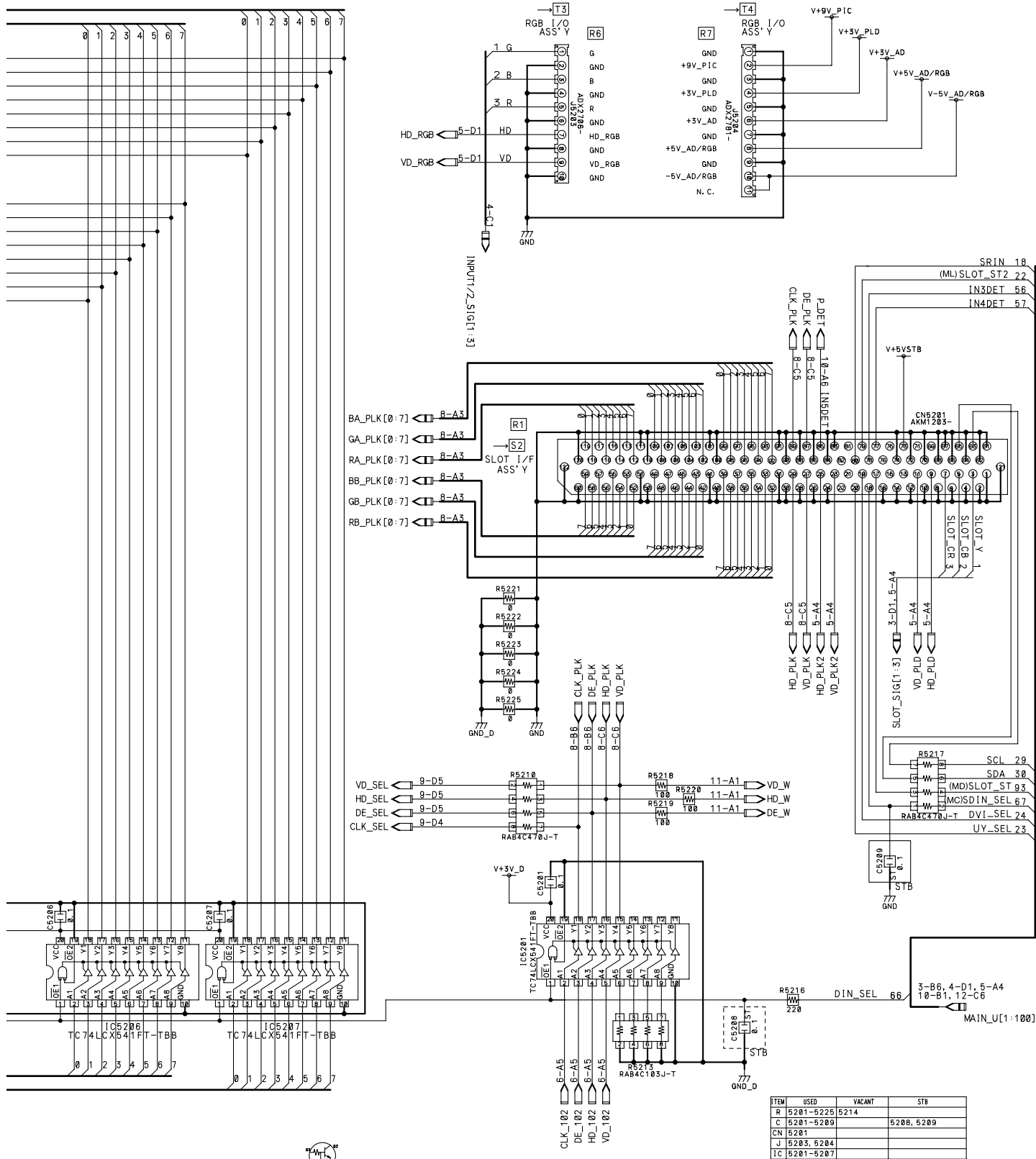
F



4.3.8 RGB ASSY (6/10)

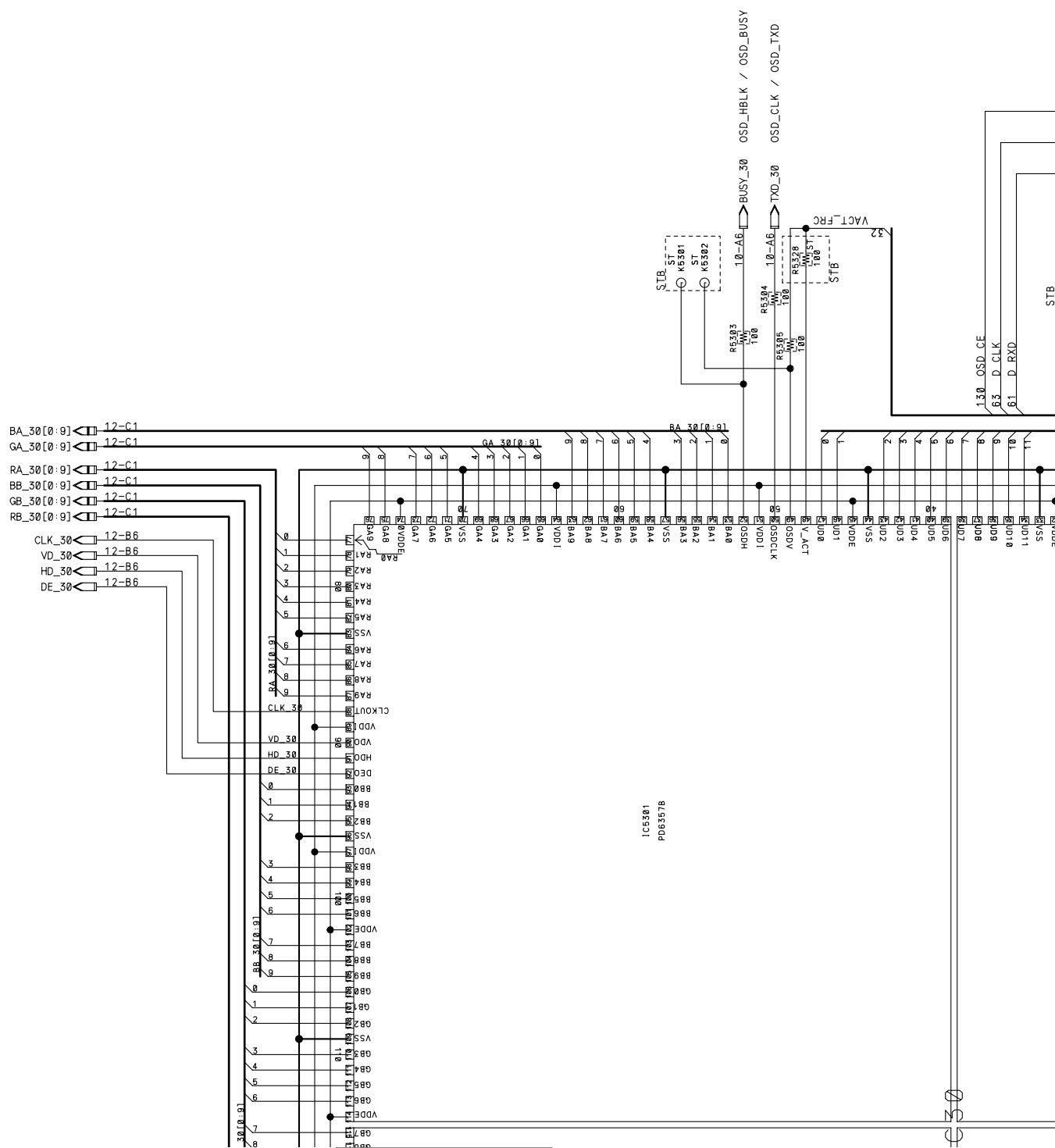
• DIGITAL SELECT BLOCK

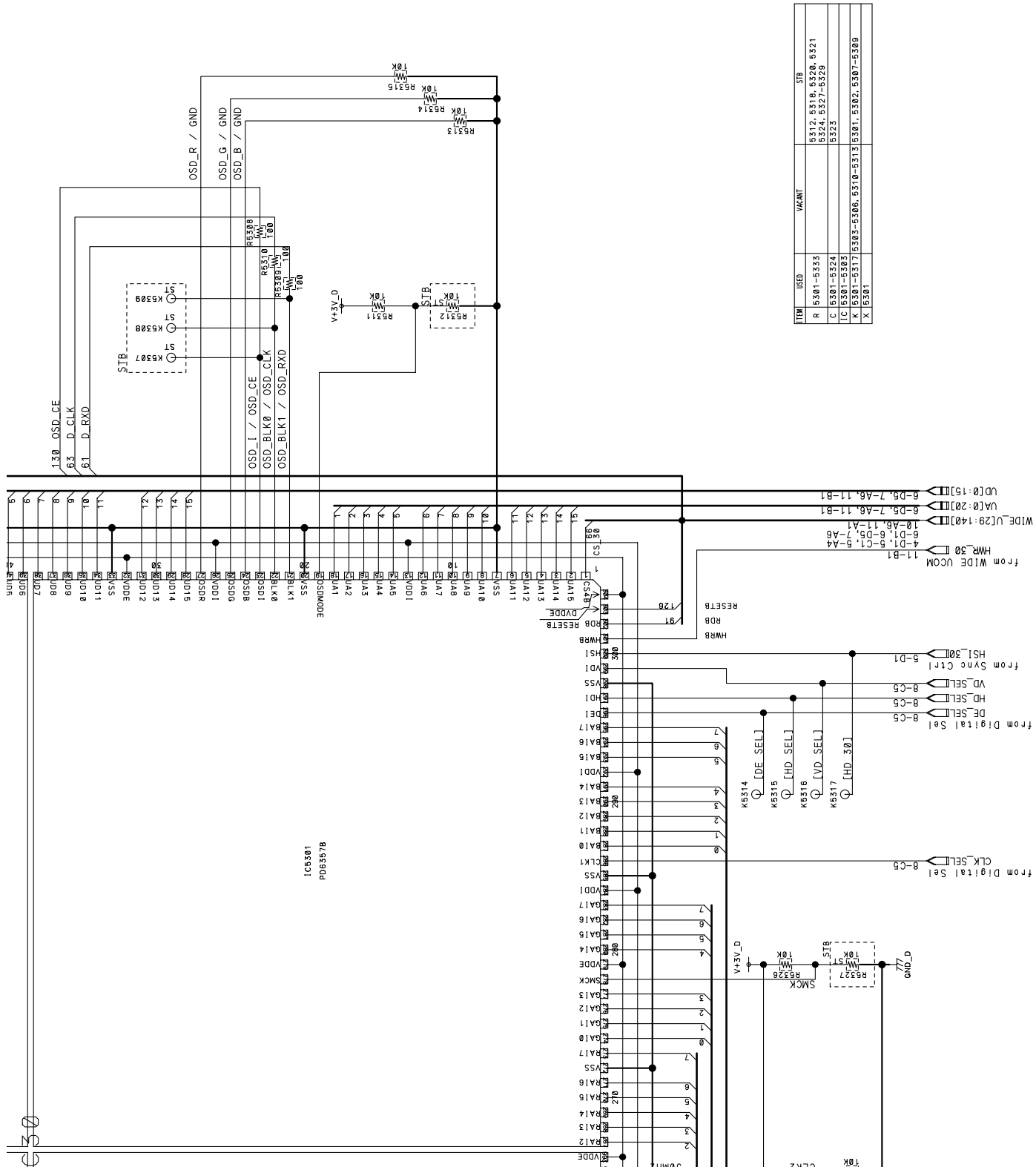




4.3.9 RGB ASSY (7/10)

- IC30 BLOCK





A

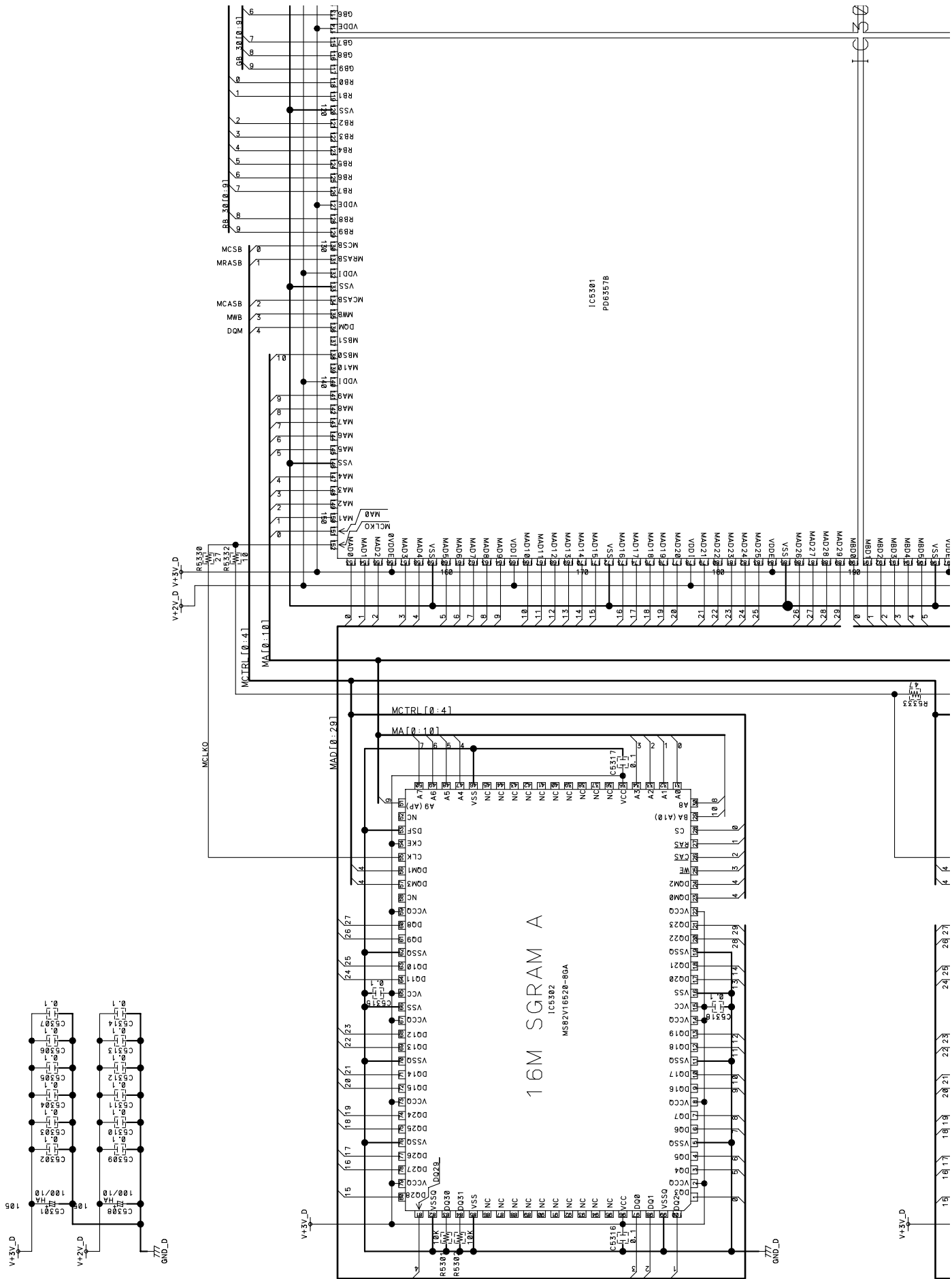
B

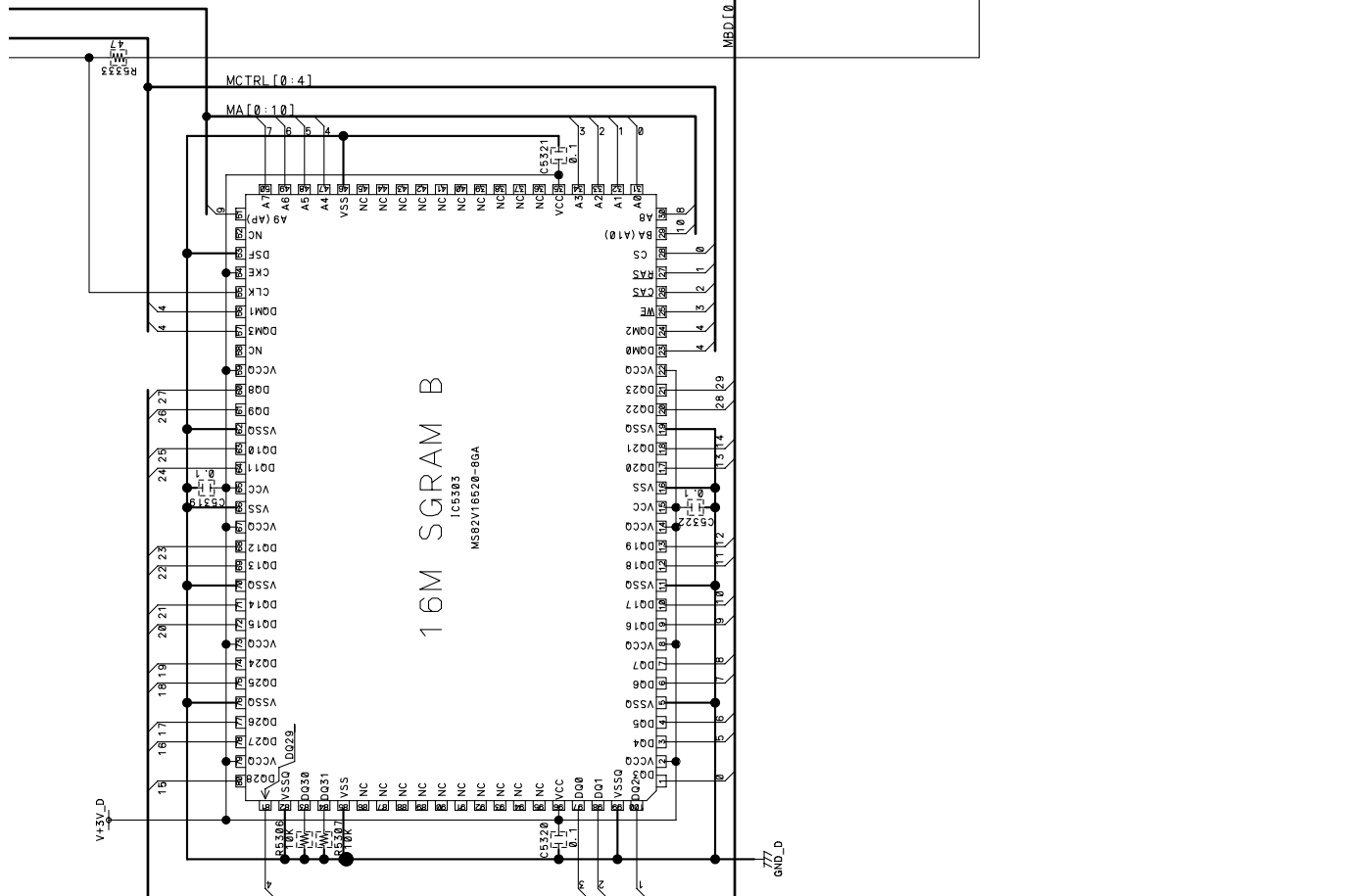
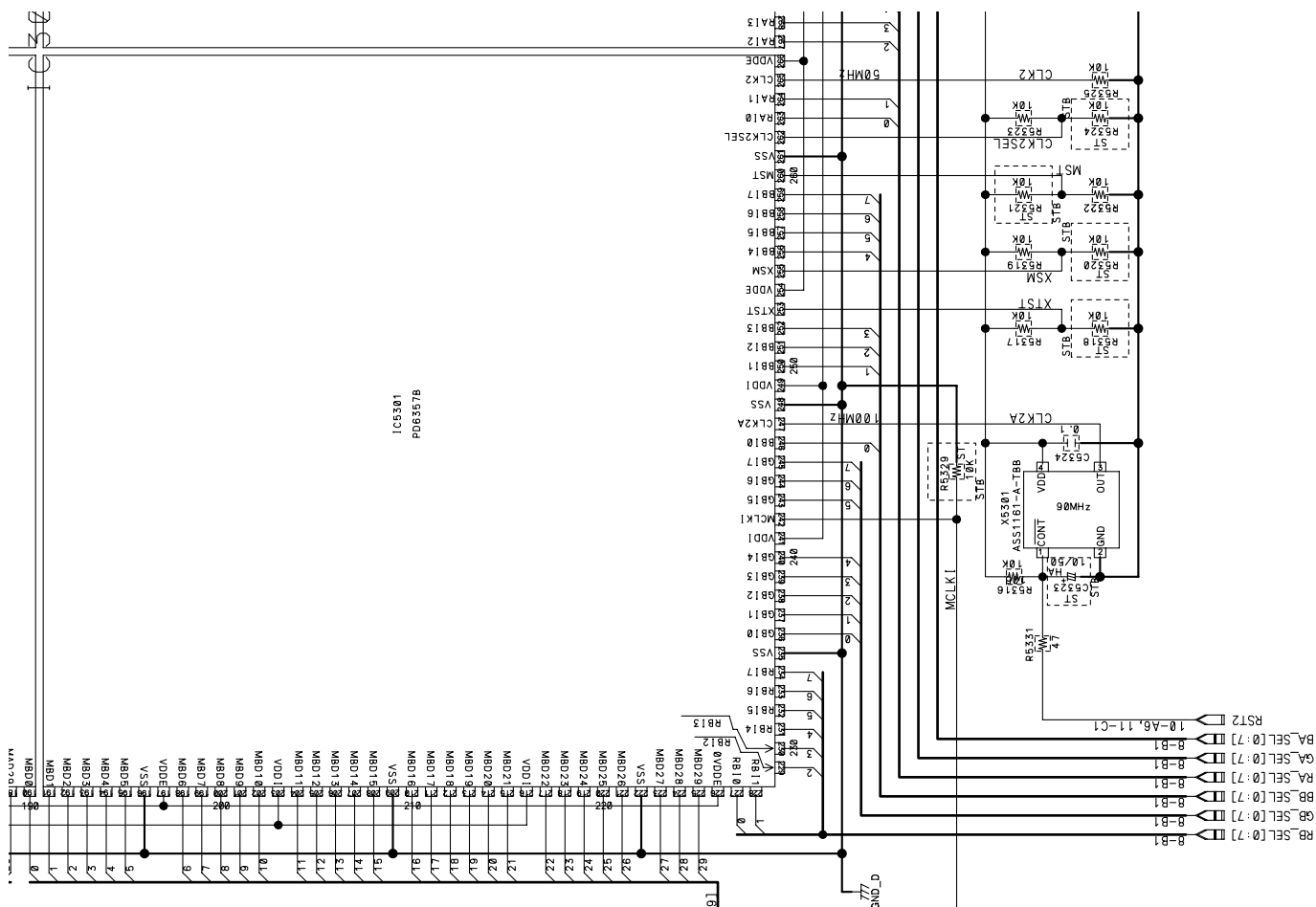
C

D

E

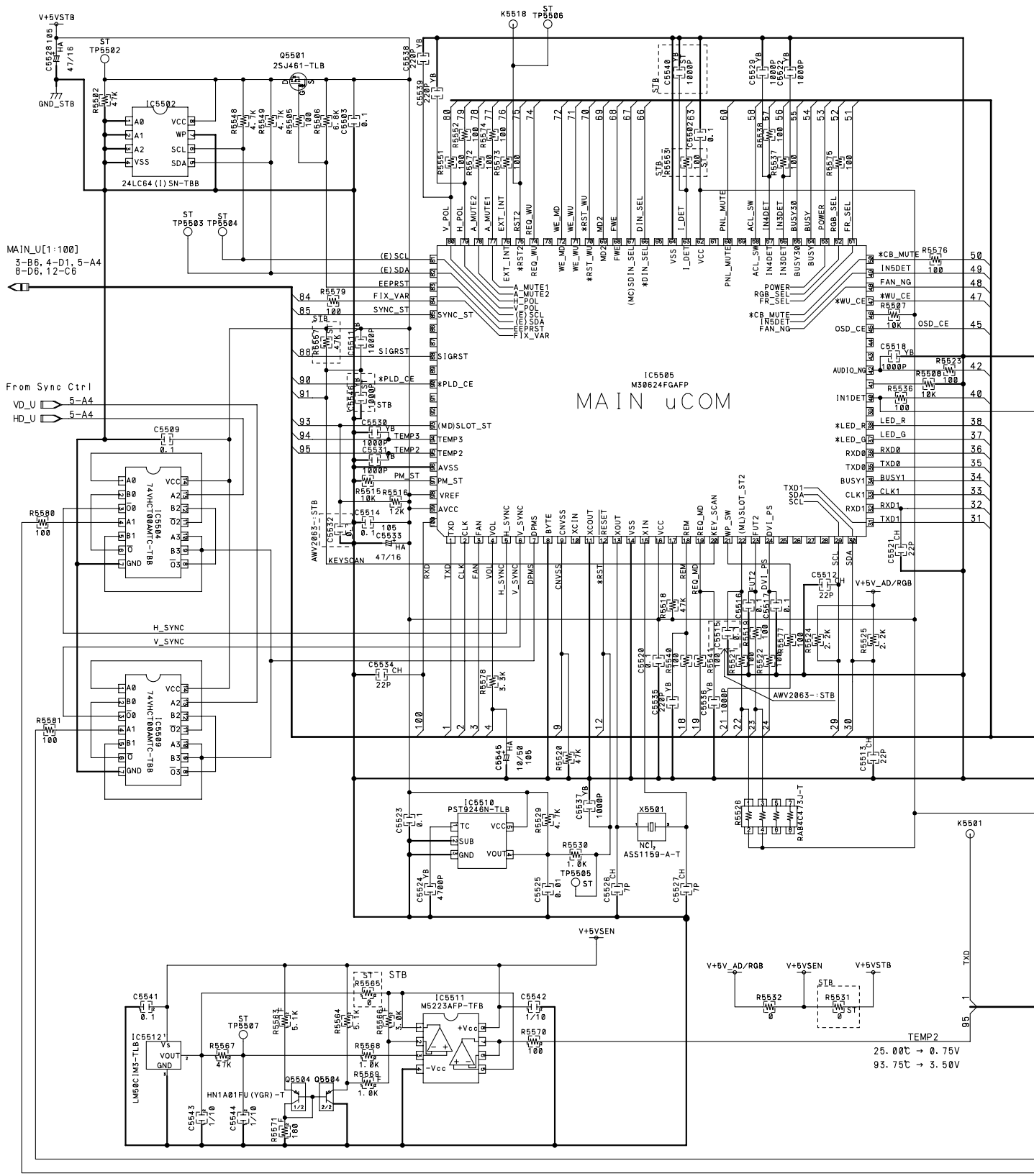
F





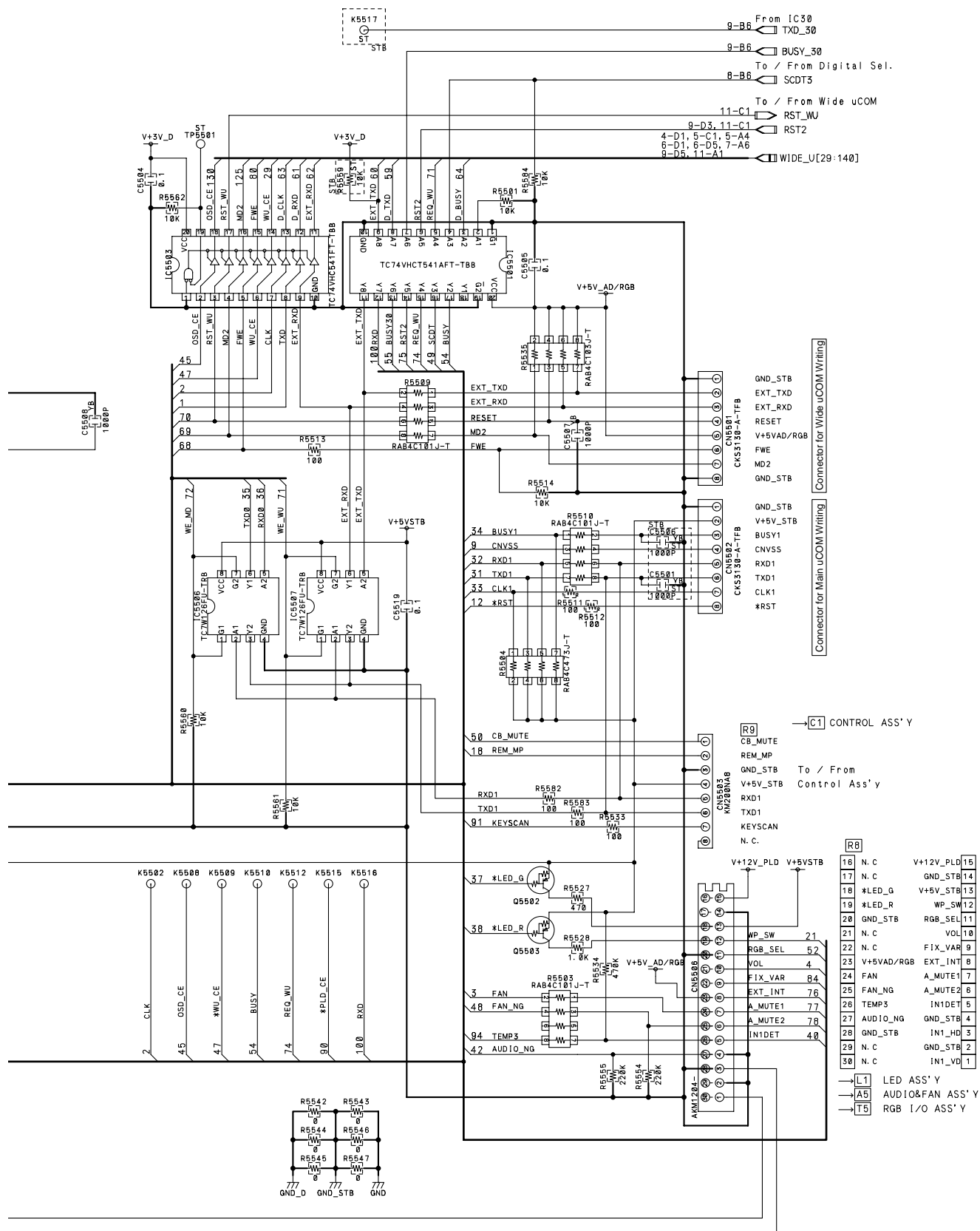
4.3.10 RGB ASSY (8/10)

MAIN U COM BLOCK



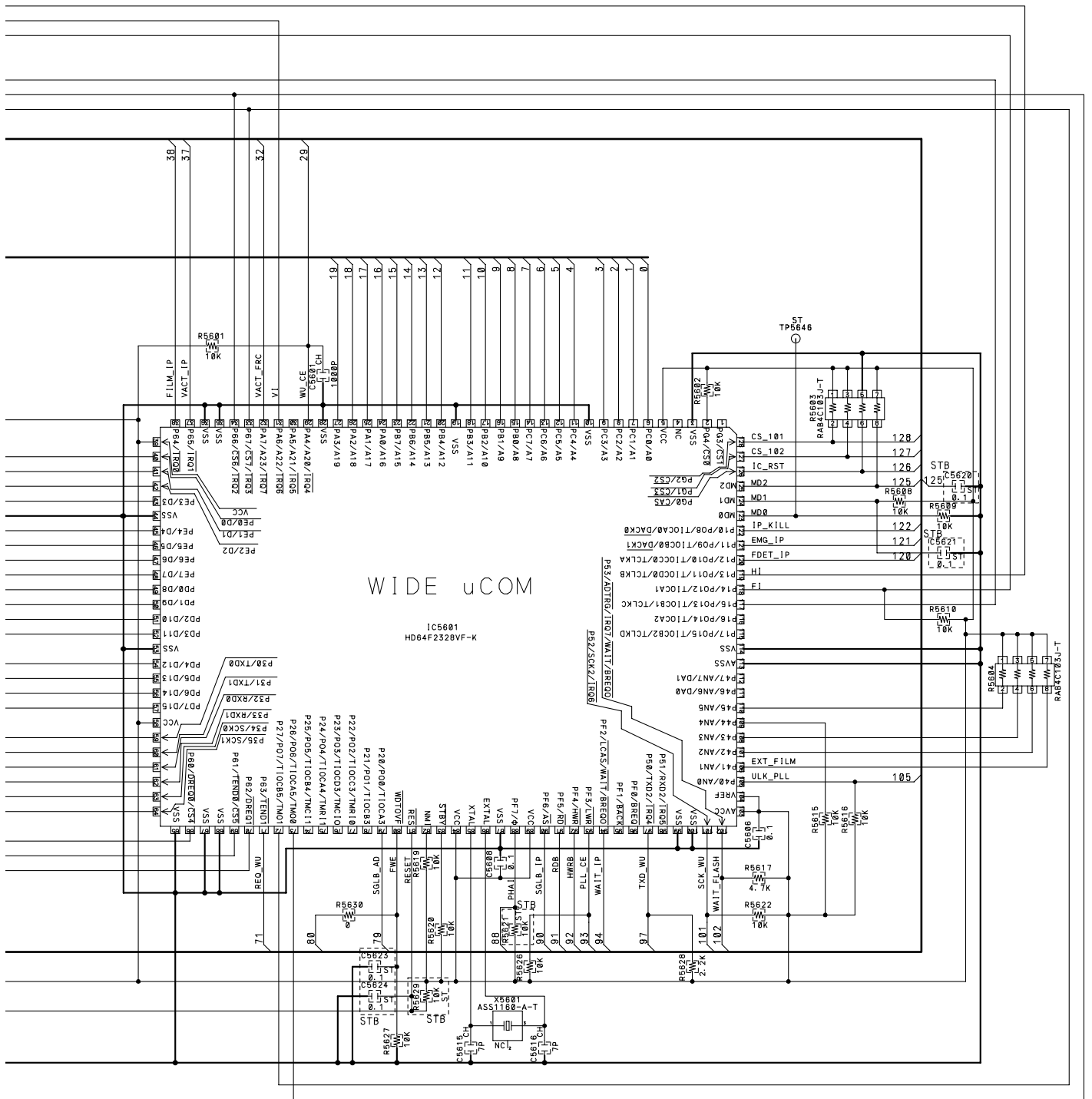
ITEM	USED	VACANT	STB
R	5501-5504	5517, 5539, 5550, 5556, 5558	5531, 5553, 5557, 5559, 5560
C	5501-5546	5510	5501, 5506, 5540, 5546
CN	5501-5505	5504, 5505	
IC	5501-5512	5508	
K	5501-5518	5503-5507, 5511, 5513, 5514	5517
Q	5501-5504		
X	5501		
TP	5501-5507		

AKX9002-A-T DTA1435K-TLB



F

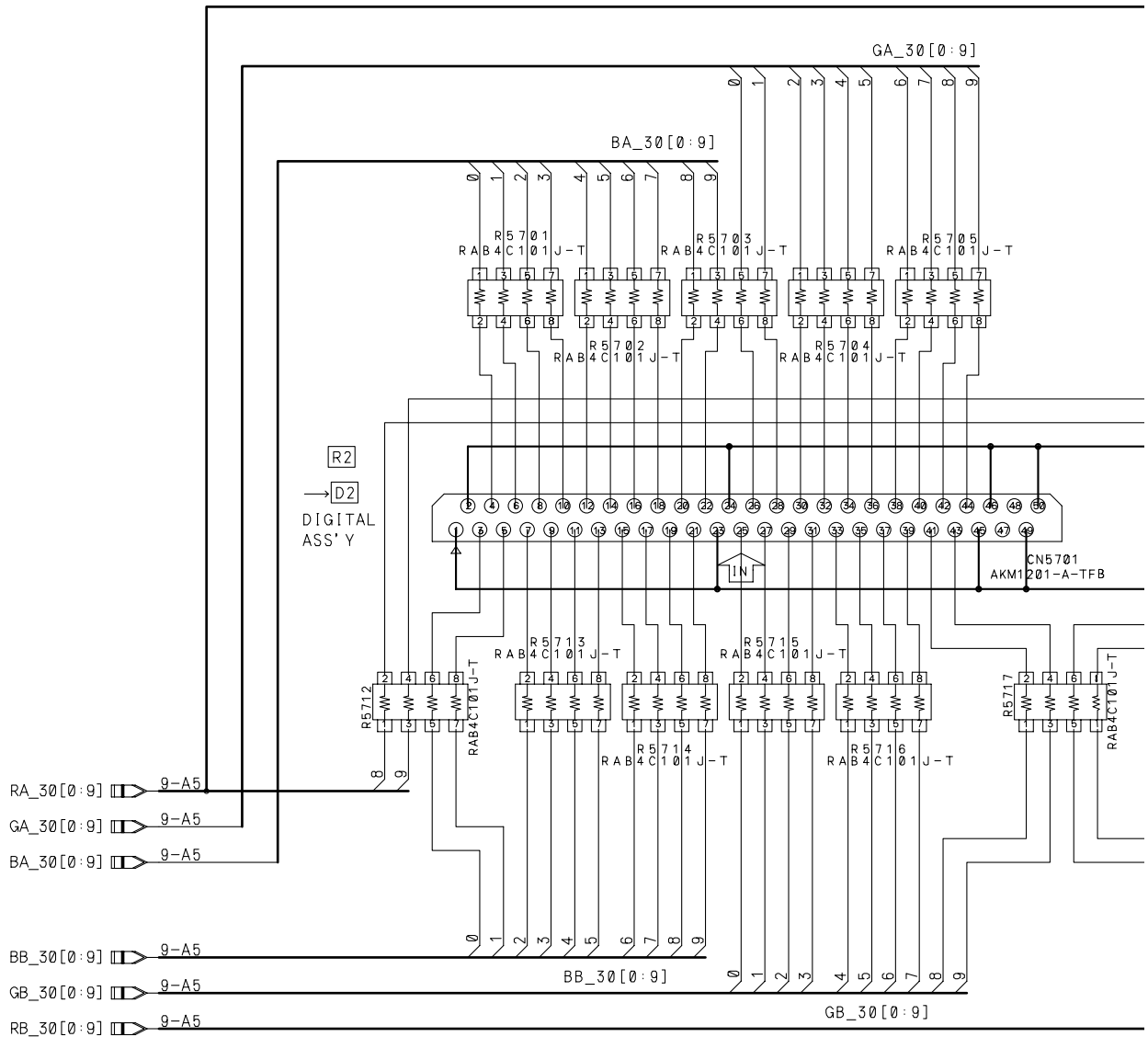




ITEM	USED	VACANT	STB
R	5601-5630	5605, 5606, 5612-5614	5611, 5621, 5629 (5630)
C	5601-5624	5602, 5603, 5605, 5607, 5609, 5614, 5622	5620, 5621 5623, 5624
IC	5601-5608	5606	
TP	5601-5646		
X	5601		

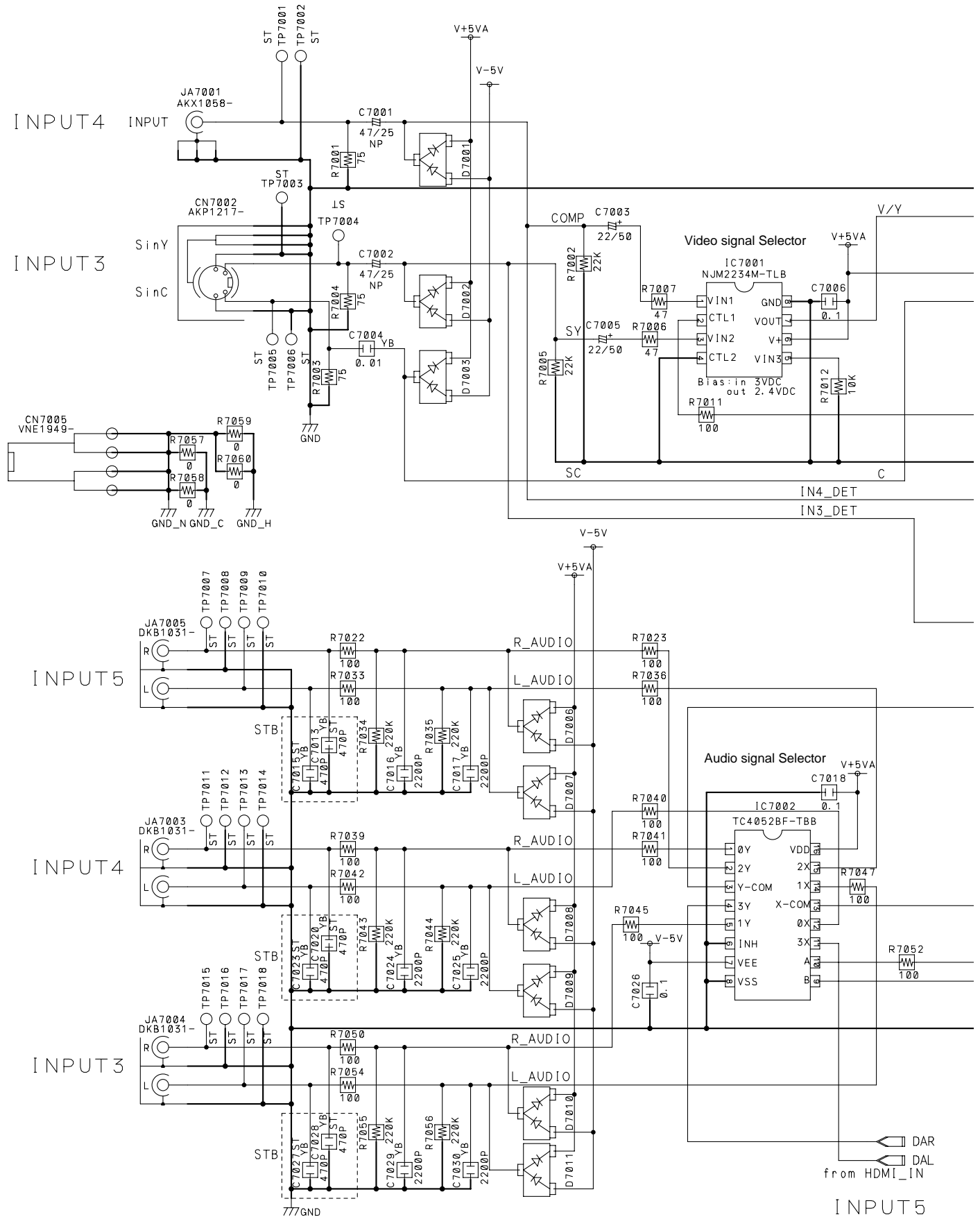
4.3.12 RGB ASSY (10/10)

• DIGITAL I/F BLOCK



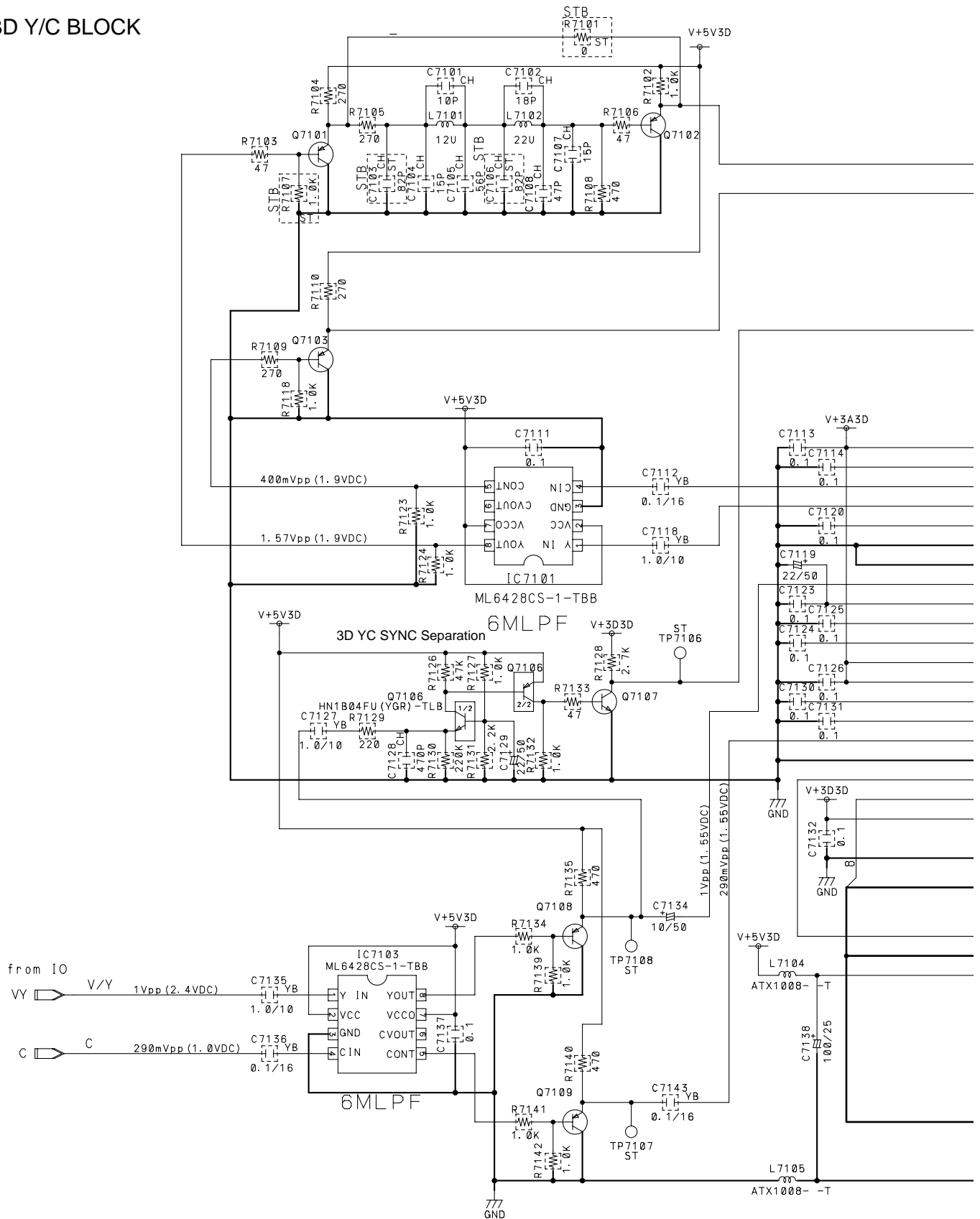
4.3.13 VIDEO SLOT US2 ASSY (1/6)

• VIDEO I/O BLOCK



4.3.14 VIDEO SLOT US2 ASSY (2/6)

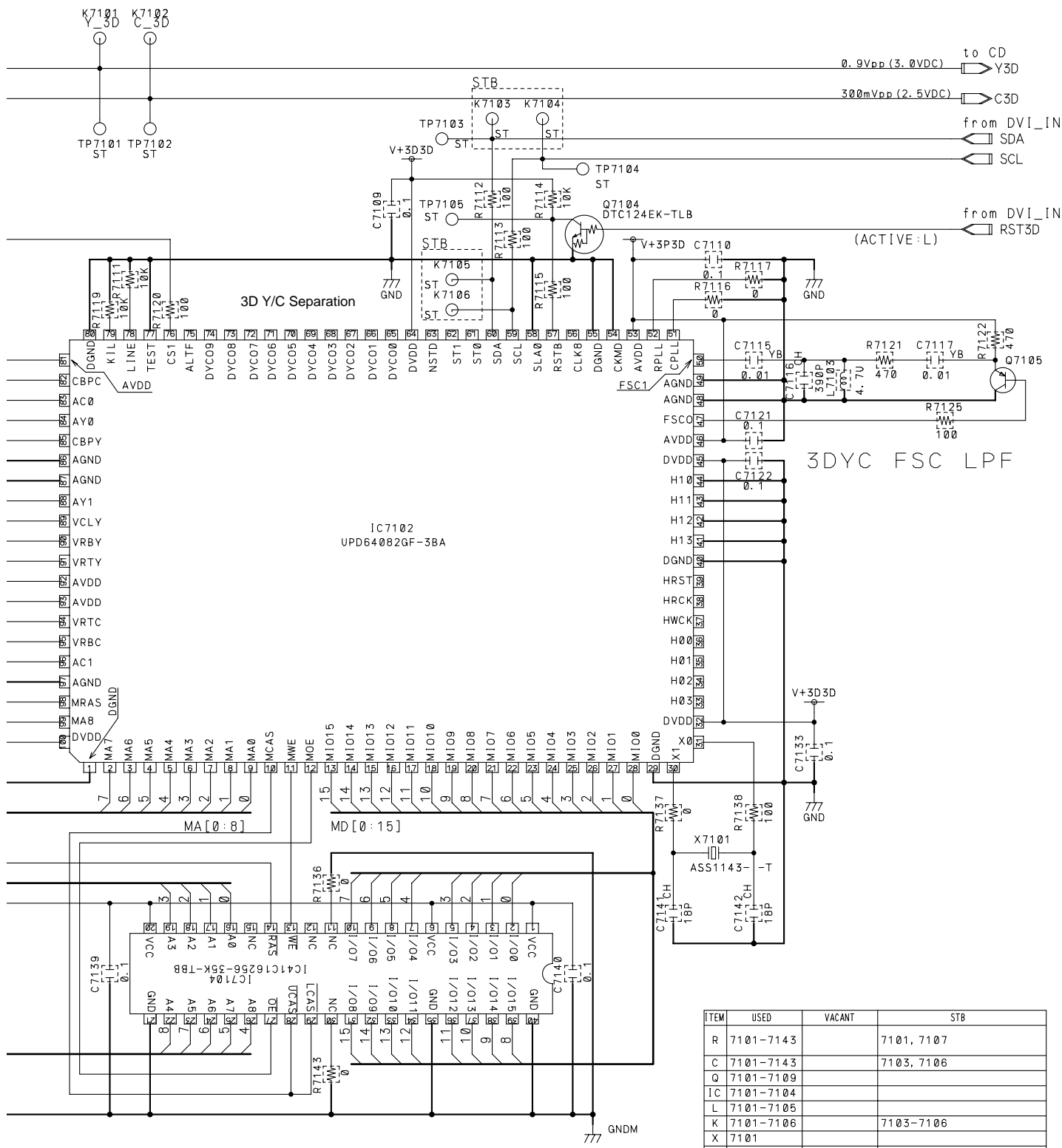
• 3D Y/C BLOCK



- 2SA1037K (RS) -TLB
 2SC2412K (RS) -TLB

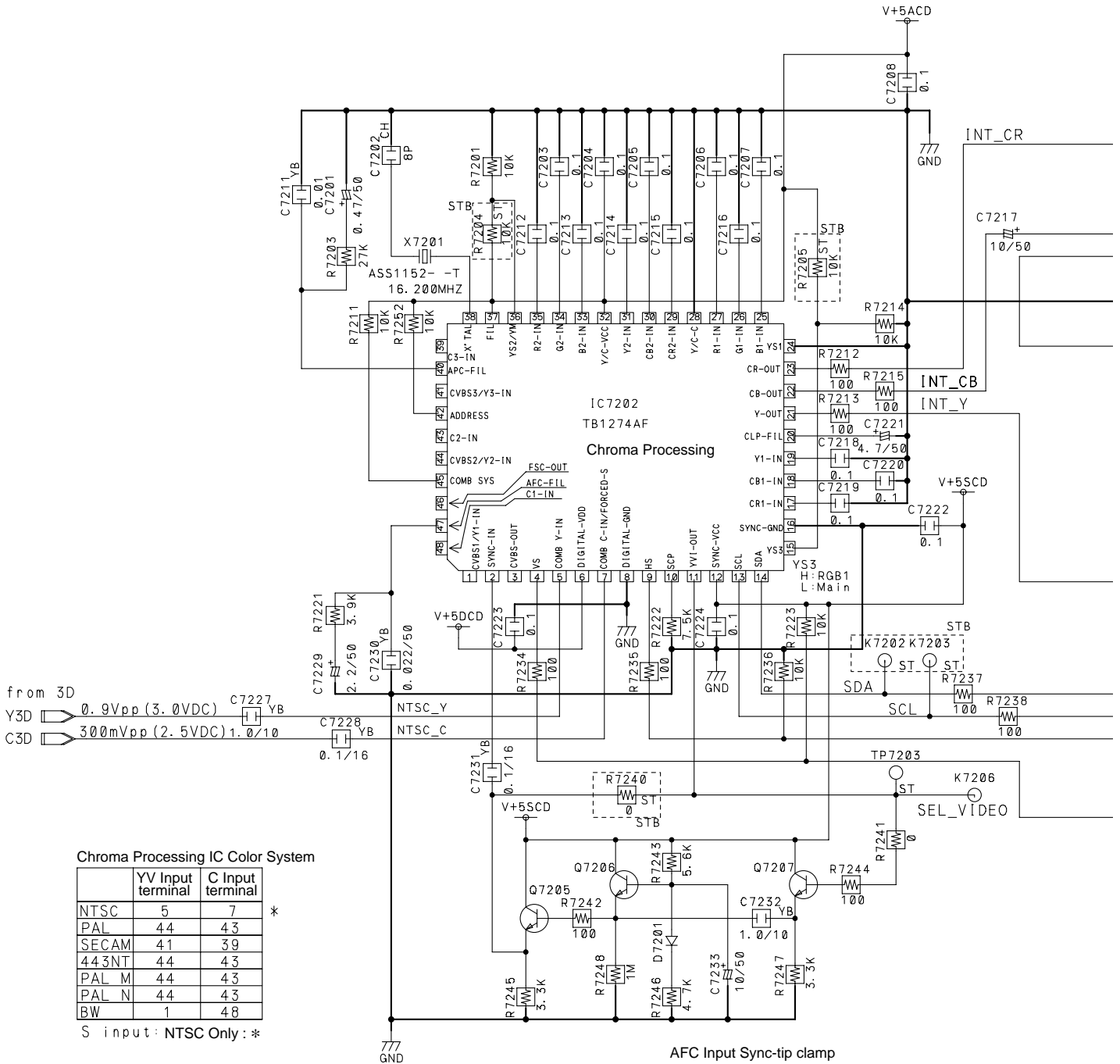
- LCYA120J2520-T
 LCYA220J2520-T

- SYOKUSIN1
 AKX9002- -T



4.3.15 VIDEO SLOT US2 ASSY (3/6)

• CHROMA DECODE BLOCK



Chroma Processing IC Color System

	YV Input terminal	C Input terminal
NTSC	5	7
PAL	44	43
SECAM	41	39
443NT	44	43
PAL M	44	43
PAL N	44	43
BW	1	48

S input: NTSC Only: *

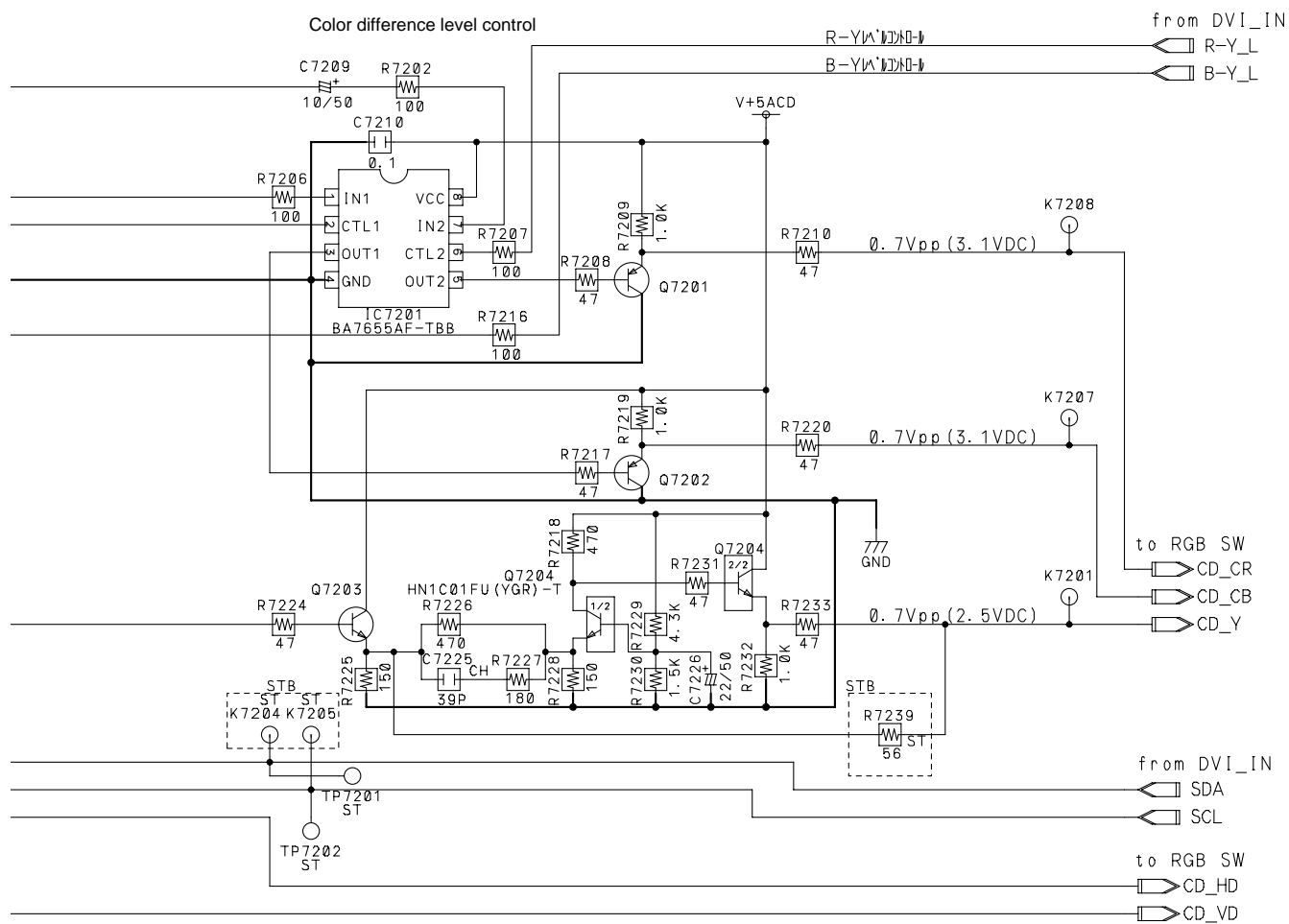
2SA1037K (RS) -TLB

AKX9002- -T

2SC2412K (RS) -TLB

1SS355-TRB

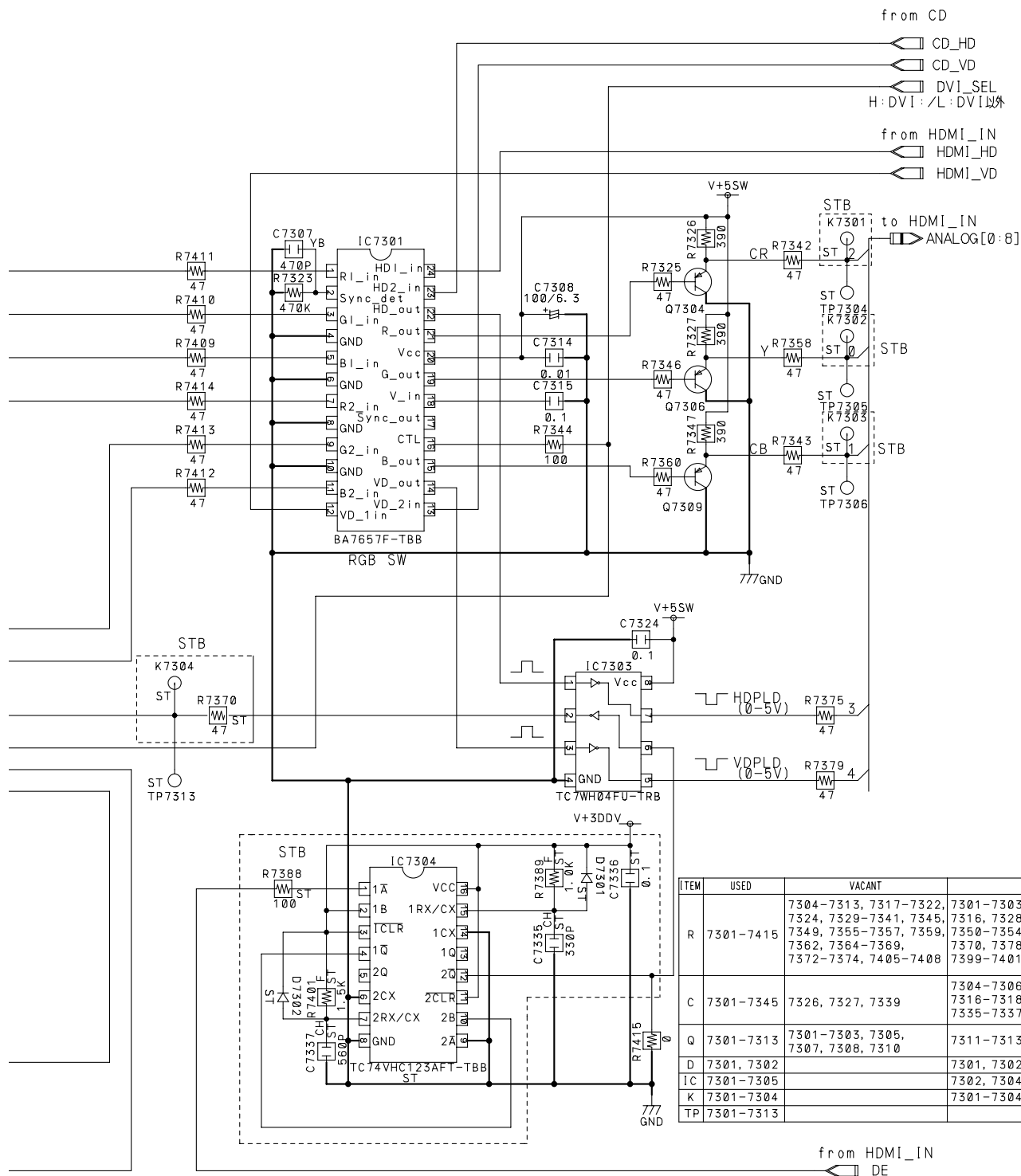
SYOKUSIN1



ITEM	USED	VACANT	STB
R	7201-7252	7249-7251	7204, 7205, 7239, 7240
C	7201-7233		
Q	7201-7207		
D	7201		
IC	7201, 7202		
X	7201		
K	7201-7208		7202-7205
TP	7201-7203		

- RGB SW BLOCK



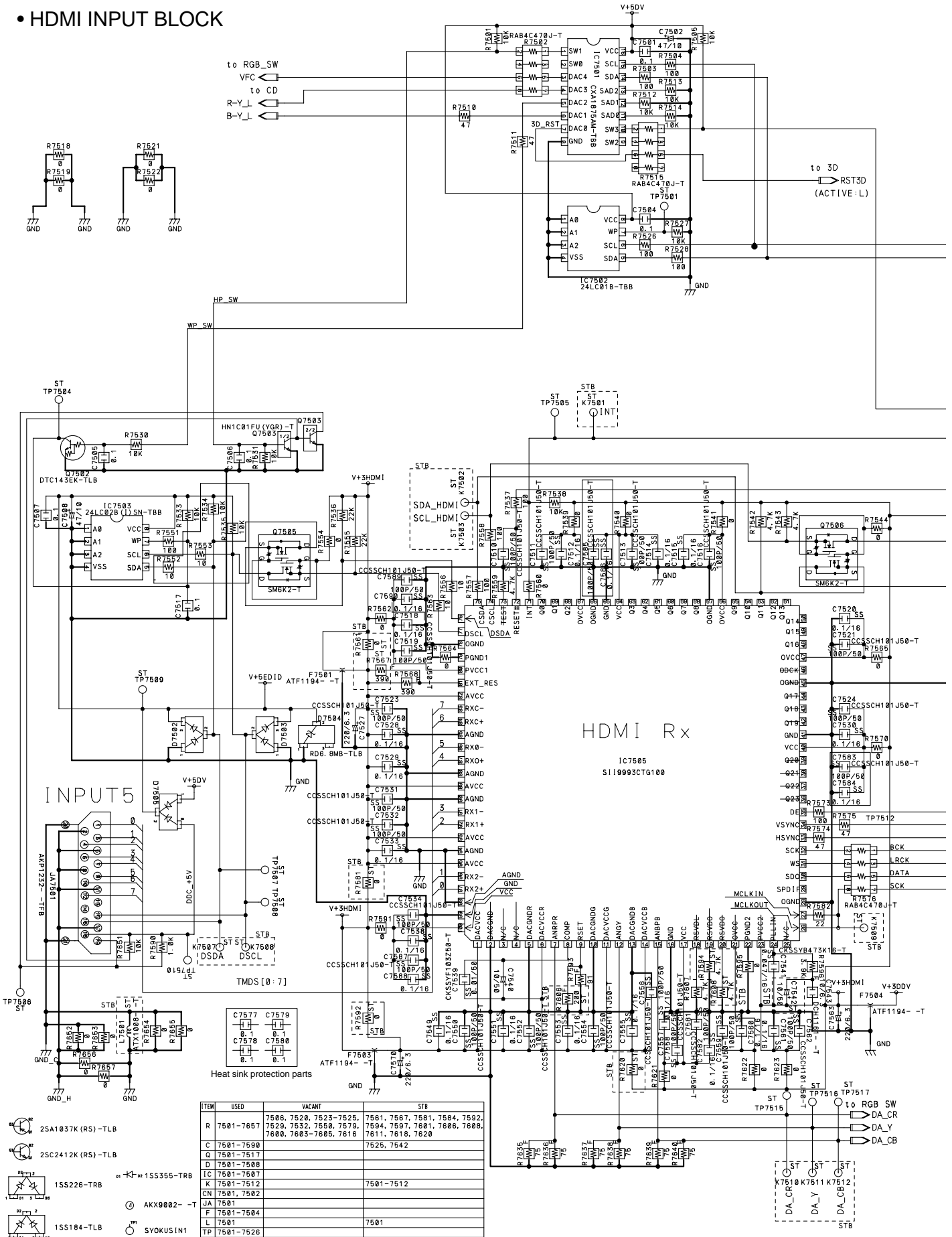


ITEM	USED	VACANT	STB
R	7301-7415	7304-7313, 7317-7322, 7324, 7329-7341, 7345, 7349, 7355-7357, 7359, 7362, 7364-7369, 7372-7374, 7405-7408	7301-7303, 7314, 7315, 7316, 7328, 7348, 7350-7354, 7361, 7363, 7370, 7378, 7386-7389, 7399-7401, 7404
C	7301-7345	7326, 7327, 7339	7304-7306, 7309-7312, 7316-7318, 7320-7322, 7335-7337, 7340-7342
Q	7301-7313	7301-7303, 7305, 7307, 7308, 7310	7311-7313
D	7301, 7302		7301, 7302
IC	7301-7305		7302, 7304
K	7301-7304		7301-7304
TP	7301-7313		

from HDMI_IN
DE

4.3.17 VIDEO SLOT US2 ASSY (5/6)

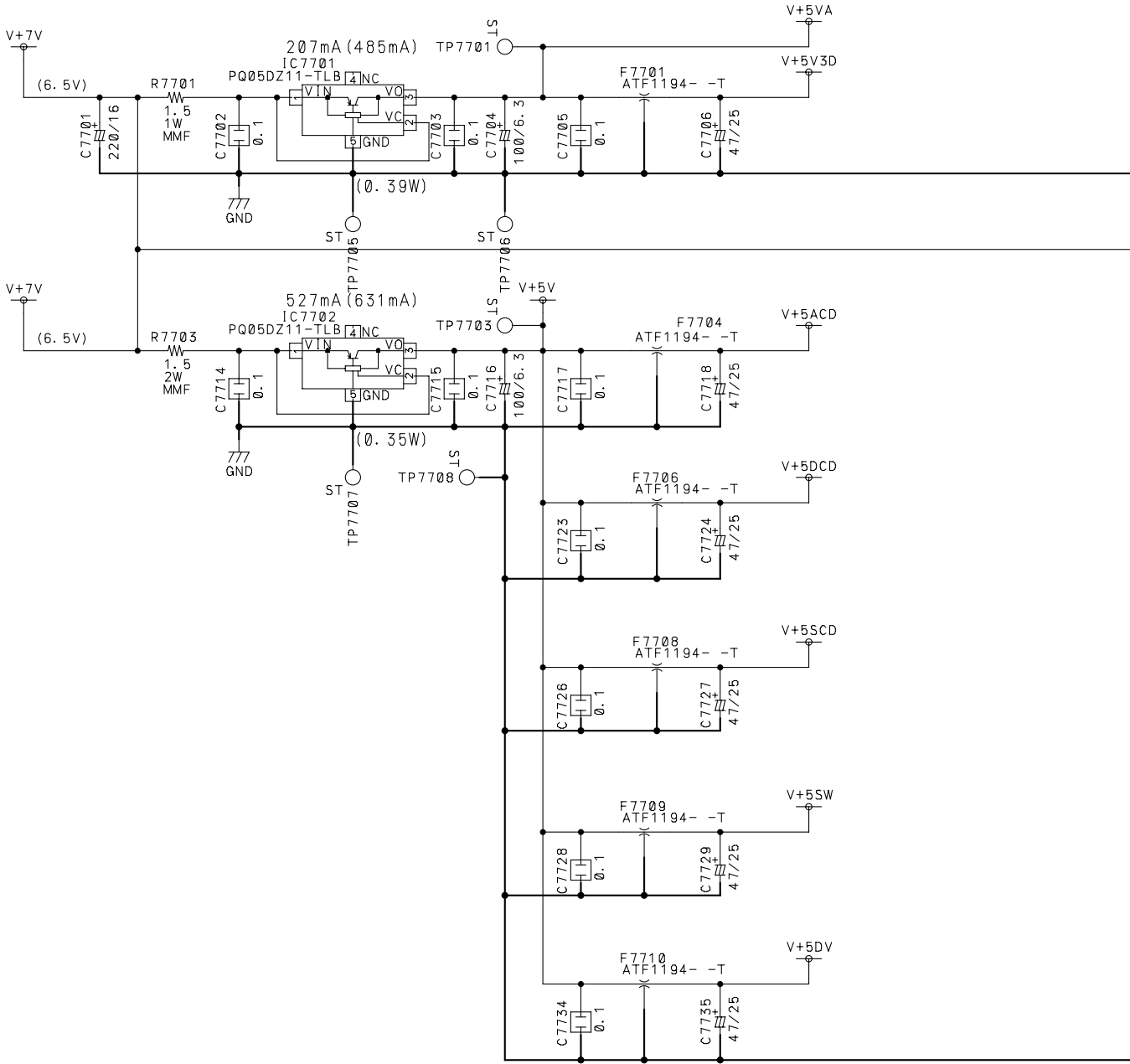
• HDMI INPUT BLOCK





4.3.18 VIDEO SLOT US2 ASSY (6/6)

• RGB BLOCK




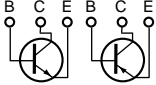

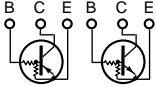

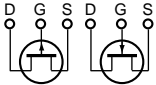

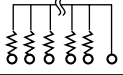


ITEM	USED	VACANT	STB
R	7701-7704		
C	7701-7739		
L	7701		
D	7701		
IC	7701-7705		
F	7701-7711		7711
TP	7701-7716		



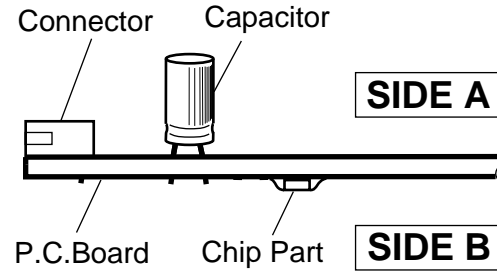
5. PCB CONNECTION DIAGRAM

NOTE FOR PCB DIAGRAMS :

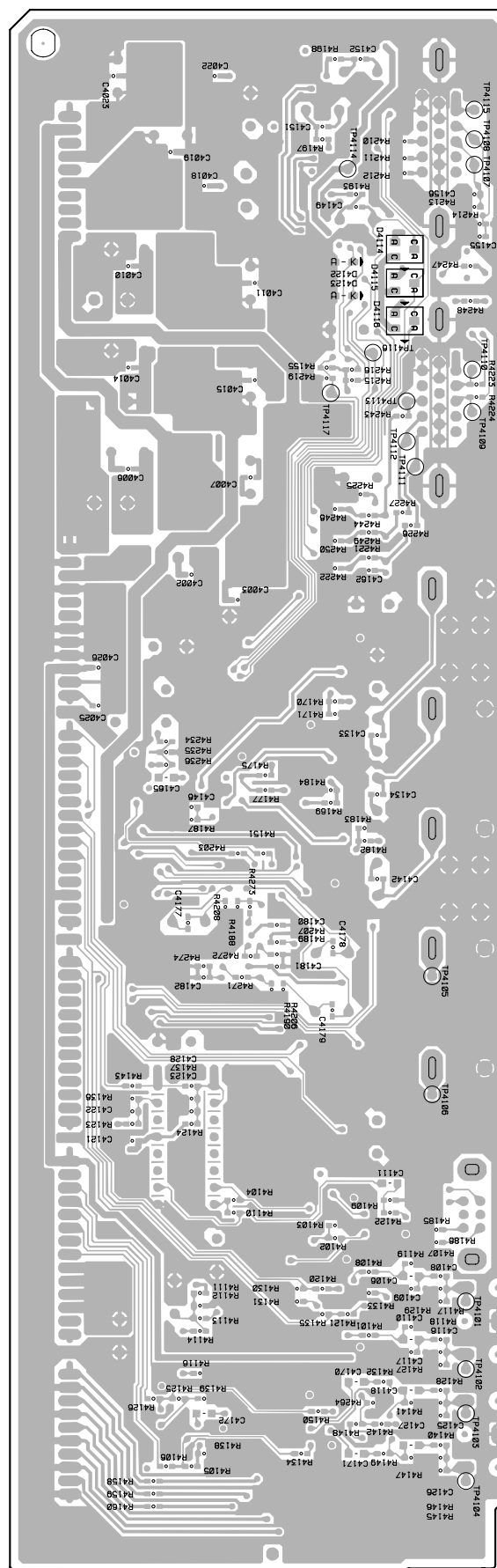
1. Part numbers in PCB diagrams match those in the schematic diagrams.
2. A comparison between the main parts of PCB and schematic diagrams is shown below.

Symbol In PCB Diagrams	Symbol In Schematic Diagrams	Part Name
		Transistor
		Transistor with resistor
		Field effect transistor
		Resistor array
		3-terminal regulator

3. The parts mounted on this PCB include all necessary parts for several destinations.
For further information for respective destinations, be sure to check with the schematic diagram.
4. View point of PCB diagrams.



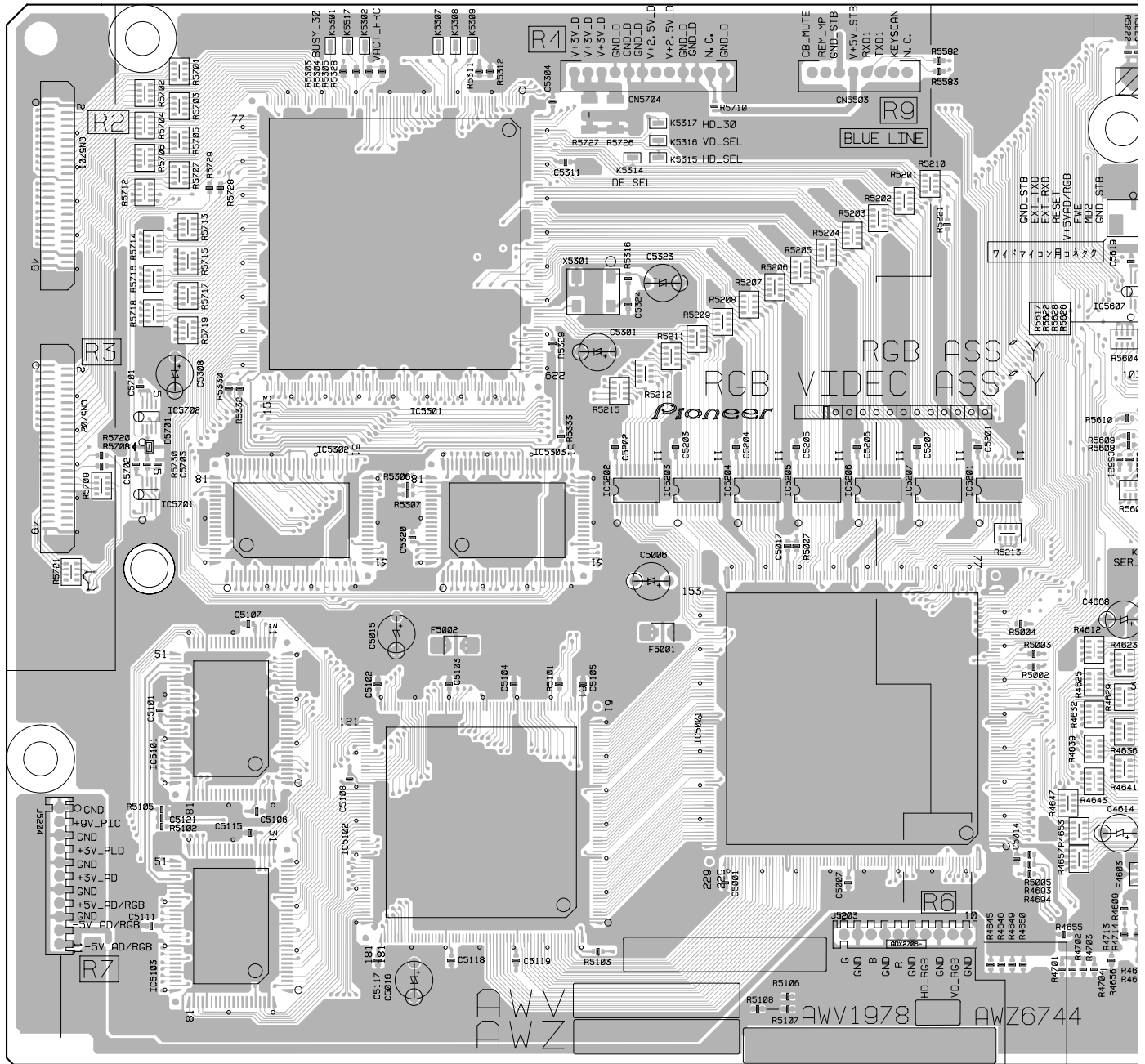
PRO-1000HDI



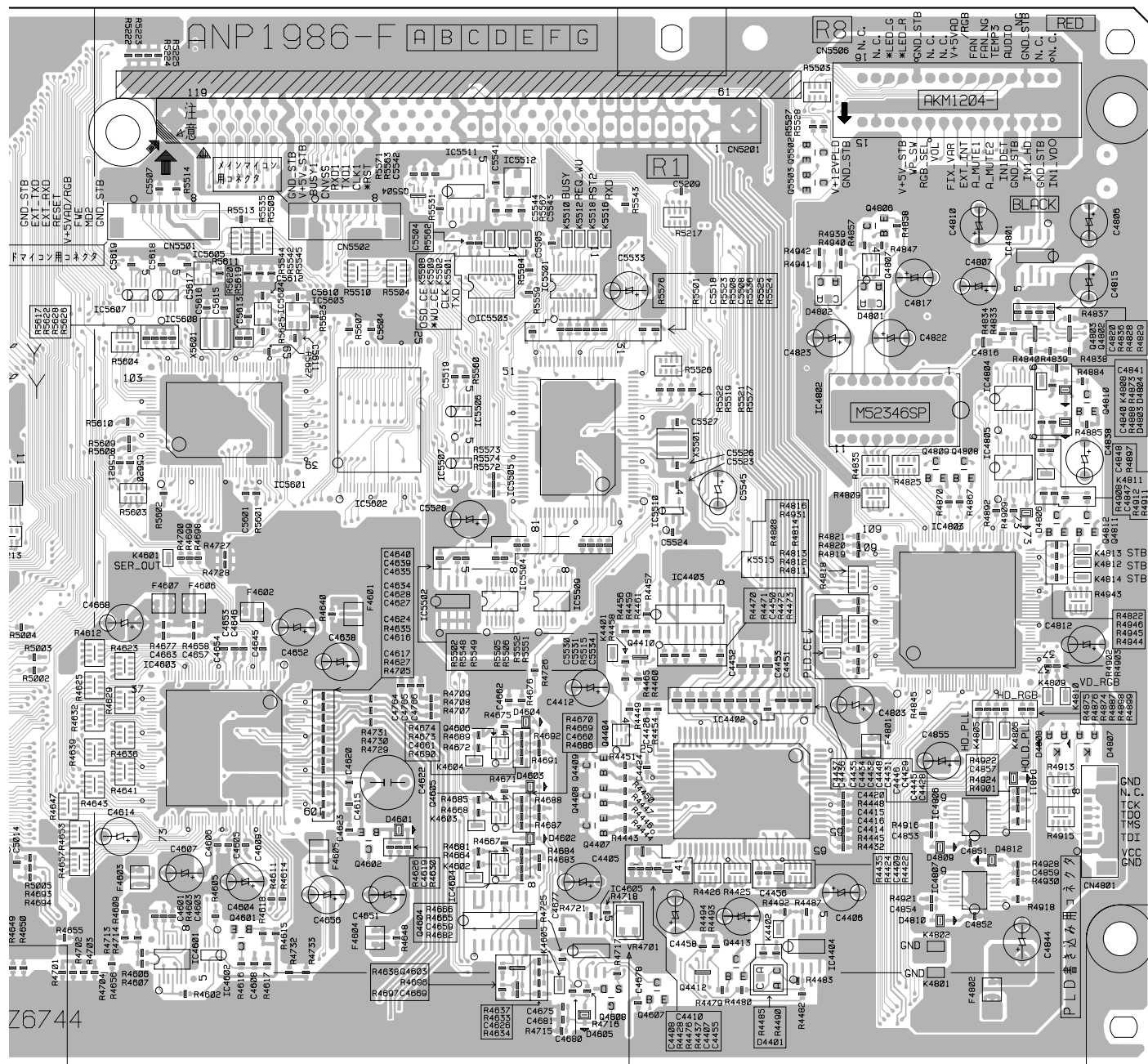
5.2 RGB ASSY

RGB ASSY

SIDE A



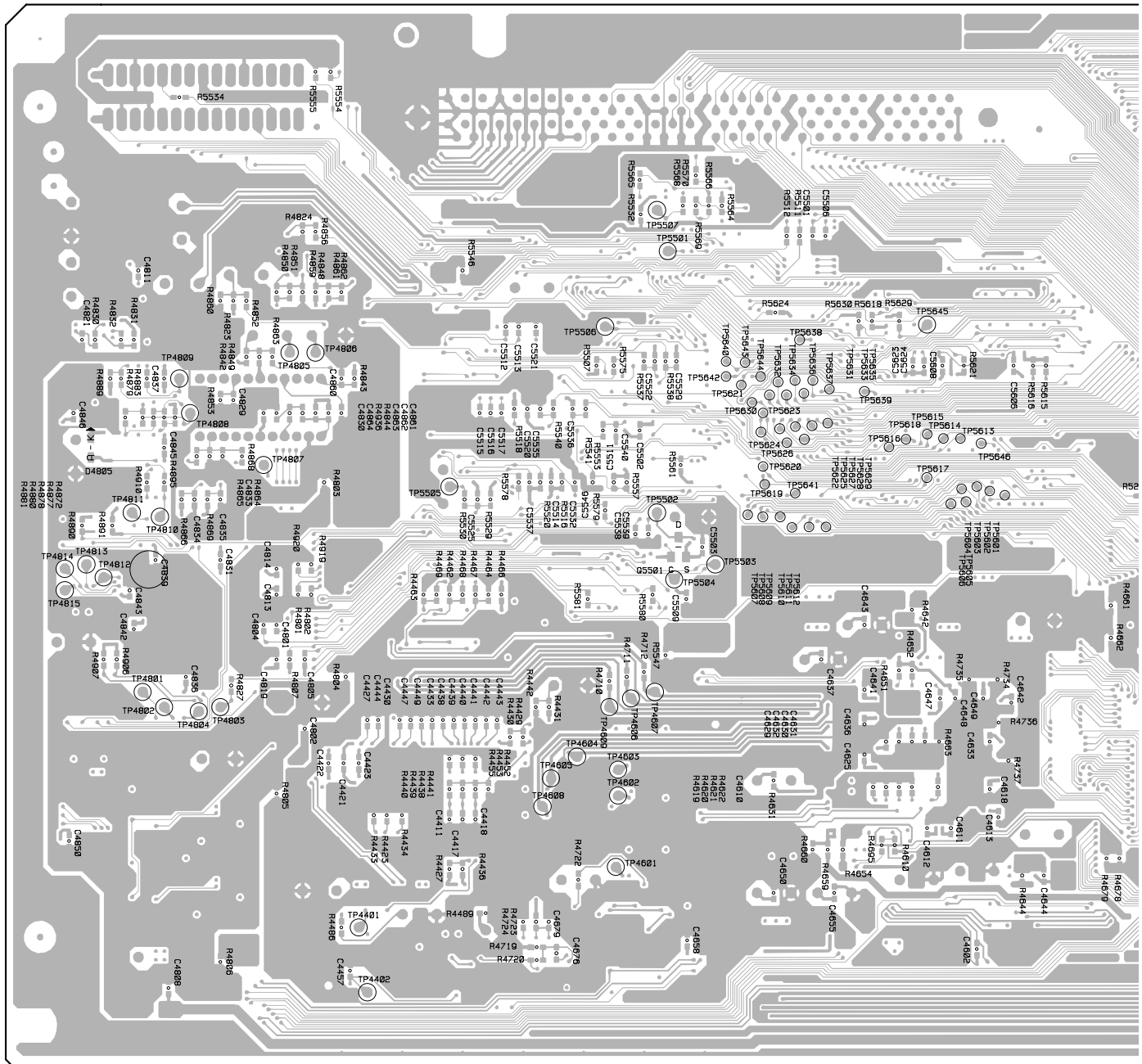
SIDE A



(ANP1986-F)

RGB ASSY

SIDE B



6. PCB PARTS LIST

NOTES: ● Parts marked by "NSP" are generally unavailable because they are not in our Master Spare Parts List.

● The Δ mark found on some component parts indicates the importance of the safety factor of the part.

Therefore, when replacing, be sure to use parts of identical designation.

● When ordering resistors, first convert resistance values into code form as shown in the following examples.

Ex.1 When there are 2 effective digits (any digit apart from 0), such as 560 ohm and 47k ohm (tolerance is shown by J=5%, and K=10%).

560 Ω \rightarrow 56 x 10^1 \rightarrow 561 RD1/4PU $\overline{561}$ J

47k Ω \rightarrow 47 x 10^3 \rightarrow 473 RD1/4PU $\overline{473}$ J

0.5 Ω \rightarrow R50 RN2H $\overline{R50}$ K

1 Ω \rightarrow 1R0 RS1P $\overline{1R0}$ K

Ex.2 When there are 3 effective digits (such as in high precision metal film resistors).

5.62k Ω \rightarrow 562 x 10^1 \rightarrow 5621 RN1/4PC $\overline{5621}$ F

Mark No.	Description	Part No.
LIST OF ASSEMBLIES		
NSP	1..SCAN FUKUGO ASSY	AWV1968 *1
NSP	2..SCAN (A) ASSY	AWZ6722 *1
NSP	2..SCAN (B) ASSY	AWZ6723 *1
NSP	2..X CONNECTOR (A) ASSY	AWZ6732 *1
NSP	2..X CONNECTOR (B) ASSY	AWZ6733 *1
	2..BRIDGE A ASSY	AWZ6734 *1
	2..BRIDGE B ASSY	AWZ6735 *1
	2..BRIDGE C ASSY	AWZ6736 *1
	2..BRIDGE D ASSY	AWZ6737 *1
	2..CLAMP A ASSY	AWZ6738 *1
	2..CLAMP B ASSY	AWZ6739 *1
	2..CLAMP C ASSY	AWZ6740 *1
	2..CLAMP D ASSY	AWZ6741 *1

NSP	1..ADDRESS FUKUGO ASSY	AWV1900 *1
NSP	2..ADR CONNECT A ASSY	AWZ6626 *1
NSP	2..ADR CONNECT B ASSY	AWZ6627 *1
NSP	2..ADR CONNECT C ASSY	AWZ6628 *1
NSP	2..ADR CONNECT D ASSY	AWZ6629 *1
	2..ADR RESONANCE ASSY	AWZ6750 *1

	1..X DRIVE ASSY	AWV1984 *1
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NSP	1..50 Y DRIVE ASSY	AWV1986 *1
	2..Y DRIVE ASSY	AWZ6745 *1
	2..SUB ADDRESS A ASSY	AWZ6689 *1
	2..SUB ADDRESS B ASSY	AWZ6690 *1
	2..SENSOR ASSY	AWZ6696 *1
	2..SLOT CONNECTOR ASSY	AWZ6634 *1

	1..DIGITAL VIDEO ASSY	AWV2072 *1
--	-----------------------	------------

NSP	1..MX FUKUGO ASSY	AWV1976 *1
	2..CONTROL ASSY	AWZ6633 *1
	2..SIDE KEY ASSY	AWZ6637 *1
	2..MX LED ASSY	AWZ6642 *1
	2..IR ASSY	AWZ6643 *1
	2..MX AUDIO ASSY	AWZ6644 *1
	2..KEY CONNECTOR ASSY	AWZ6695 *1
	2..SP OUT L ASSY	AWZ6705 *1
	2..SP OUT R ASSY	AWZ6706 *1

NSP	1..RGB VIDEO ASSY	AWV2063
	2..I/O ASSY	AWZ6801
	2..RGB ASSY	AWZ6837

	1..VIDEO SLOT US2 ASSY	AWV2064
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Mark No.	Description	Part No.
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I/O ASSY

[REG BLOCK]

SEMICONDUCTORS

IC4003	PQ05DZ11
IC4002	PQ09DZ11
IC4004	PQ12DZ11
IC4005, IC4006	PQ3DZ13
IC4001	TA79L05F

CAPACITORS

C4027	CEHAT100M50
C4012, C4020, C4024	CEHAT101M10
C4008	CEHAT101M16
C4001, C4004, C4005, C4009, C4013	CEHAT470M16
C4016, C4017	CEHAT470M16
C4002, C4003, C4006, C4007	CKSRYF104Z16
C4010, C4011, C4014, C4015	CKSRYF104Z16
C4018, C4019, C4022, C4023	CKSRYF104Z16
C4026	CKSRYF105Z10

RESISTORS

R4001, R4003, R4004, R4007	RS1MMF1R0J
R4002	RS1MMF8R2J

OTHERS

CN4002 (5P PLUG)	KM200NA15
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[RGB I/O BLOCK]

SEMICONDUCTORS

IC4110	24LCS21A
IC4108	BA7657F
IC4107, IC4111	LT1399CS
IC4104	TA7630P
IC4103, IC4105	TC4052BF
IC4109	TC74VHCT541AFT
IC4101, IC4102	UPC4570G2
Q4114	2SC2412K
Q4102	DTA143EK
Q4103, Q4117	DTC143EK
Q4104-Q4106, Q4108, Q4111, Q4112	HN1B04FU
Q4101, Q4113	HN1C01FU
Q4115, Q4116	UMY1N
D4111	1SS184
D4105-D4107, D4114-D4116	1SS226
D4119, D4120	1SS226
D4121	1SS352

Note: *1. The PCB PARTS. "Refer to Service manual (ARP3150)

Mark No.	Description	Part No.
D4110		RD6.8MB
D4108, D4109, D4112, D4113		UDZS5.6B
D4122, D4123		UDZS5.6B

SWITCHES

S4101	ASH1029
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CAPACITORS

C4144, C4145, C4155, C4156	CCSRCH220J50
C4109, C4117	CCSRCH221J50
C4166	CEHAT100M50
C4137, C4161, C4169	CEHAT101M10
C4120, C4124, C4135, C4136	CEHAT470M16

C4139, C4140, C4143, C4150	CEHAT470M16
C4153, C4154, C4157, C4174-C4176	CEHAT470M16
C4167	CEHAT4R7M50
C4101, C4104, C4106, C4110, C4111	CKSQYB105K10
C4114, C4118, C4127, C4165	CKSQYB105K10

C4170, C4171	CKSQYB105K10
C4129, C4130, C4133, C4134, C4142	CKSRYB103K50
C4149, C4151, C4152, C4177-C4179	CKSRYB103K50
C4108, C4116	CKSRYB222K50
C4146	CKSRYB471K50

C4125, C4126	CKSRYB472K50
C4107, C4119, C4121-C4123, C4128	CKSRYF104Z16
C4147, C4158-C4160, C4162-C4164	CKSRYF104Z16
C4168, C4180-C4182	CKSRYF104Z16

RESISTORS

R4188-R4190	RS1/16S1001F
R4271-R4273	RS1/16S1101F
R4185, R4186, R4213, R4214	RS1/16S2201F
R4165, R4166, R4180, R4210-R4212	RS1/16S75R0F
R4262, R4263	RS1/2S750J

Other Resistors	RS1/16S###J
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OTHERS

CN4101, CN4102 (MINI JACK)	AKN1069
CN4103, CN4104 (D-SUB SOCKET)	AKP1214
CN4105 (BNC SOCKET)	AKX1055

RGB ASSY

[MATRIX BLOCK]

SEMICONDUCTORS

IC4402	CXA2101AQ
IC4403	ML6426CS-1
IC4404	NJM072BM-E
Q4407-Q4409	2SA1037K
Q4413	2SC2412K

Q4412	HN1A01FU
Q4404	HN1B04FU
Q4410	HN1C01FU
D4401	1SS226

CAPACITORS

C4406, C4412, C4458	CEHAT100M50
C4405	CEHAT101M16
C4456	CEHAT470M16
C4437, C4451-C4453	CKSQYB105K10
C4407, C4409, C4410, C4428, C4429	CKSQYB474K16

Mark No.	Description	Part No.
C4431, C4432, C4434-C4436, C4445		CKSQYB474K16
C4448		CKSQYB474K16
C4421-C4423, C4426		CKSRYB104K16
C4408		CKSRYB222K50
C4411, C4414-C4418, C4420, C4424		CKSRYF104Z16

C4427, C4430, C4433, C4438-C4444	CKSRYF104Z16
C4446, C4447, C4449, C4450, C4455	CKSRYF104Z16
C4457	CKSRYF104Z16

RESISTORS

R4422, R4425, R4426	RAB4C103J
R4483	RS1/16S1003F
R4476	RS1/16S1004F
R4448	RS1/16S2202F
R4437	RS1/16S2204F

R4494	RS1/16S3901F
R4482	RS1/16S4701F
R4455	RS1/16S4702F
R4489	RS1/16S5601F
Other Resistors	RS1/16S###J

[AS/PLL/AMP BLOCK]

SEMICONDUCTORS

IC4603	CXA3516AR
IC4605	NJM072BM-E
IC4604	TC74HC4066AF
IC4601	TC74LCX125FT
IC4602	TC7WH04FU

Q4601, Q4602	2SC2412K
Q4608	2SK208
Q4607	DTC124EK
Q4604-Q4606	HN1B04FU
Q4603	HN1C01FU

D4601-D4605	1SS355
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CAPACITORS

C4623	CCSRCH101J50
C4615, C4680	CCSRCH220J50
C4626, C4669	CCSRCH221J50
C4620	CCSRCH331J50
C4604, C4607, C4614, C4638	CEHAT101M10

C4651, C4652, C4656, C4668	CEHAT101M10
C4622	CFTLA105J50
C4662	CKSRYB102K50
C4608, C4619, C4627, C4628	CKSRYB104K16
C4634, C4635, C4639, C4640	CKSRYB104K16

C4610, C4647	CKSRYB105K6R3
C4675	CKSRYB184K10
C4601, C4605, C4606, C4609	CKSRYF104Z16
C4611-C4613, C4616-C4618	CKSRYF104Z16
C4624, C4625, C4629-C4633	CKSRYF104Z16

C4636, C4637, C4641-C4646	CKSRYF104Z16
C4648-C4650, C4653-C4655	CKSRYF104Z16
C4657-C4661, C4663, C4677-C4679	CKSRYF104Z16

RESISTORS

R4612, R4623, R4625, R4629, R4632	RAB4C101J
R4636, R4639, R4641, R4643, R4647	RAB4C101J
R4653, R4657	RAB4C101J
R4635	RN1/16SE3001D
R4630	RS1/16S2201F

R4676, R4715	RS1/16S2204F
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Mark No.	Description	Part No.
R4626		RS1/16S2701F
R4631		RS1/16S3301F
VR4701 (4.7k)		ACP1091
Other Resistors		RS1/16S###J

[SYNC CONTROL BLOCK]

SEMICONDUCTORS

IC4802	M52346SP
IC4801	NJM2234M
IC4803	PDY077K
Q4806	2SC2412K
Q4808, Q4809	DTC124EK

Q4803	HN1A01FU
Q4807	HN1B04FU
Q4802	HN1C01FU
D4807, D4808	1SS184
D4801, D4802	1SS226

COILS AND FILTERS

F4801, F4802	ATF1194
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CAPACITORS

C4863, C4864	CCSRCH151J50
C4801, C4805	CCSRCH220J50
C4821, C4833	CCSRCH221J50
C4804	CCSRCH470J50
C4807, C4810, C4823	CEHAT100M50

C4812, C4844	CEHAT101M10
C4803, C4806, C4815	CEHAT470M16
C4817, C4822	CEHAT4R7M50
C4816	CKSQYB105K10
C4829	CKSRYB472K50

C4802, C4808, C4811, C4813, C4814	CKSRYF104Z16
C4819, C4820, C4830, C4831, C4836	CKSRYF104Z16
C4839, C4842, C4843, C4850, C4861	CKSRYF104Z16
C4860	CKSRYF105Z10

RESISTORS

R4814, R4818, R4835, R4915	RAB4C101J
R4913	RAB4C102J
R4809	RAB4C152J
R4825	RAB4C471J
R4808, R4943	RAB4C472J

R4864	RS1/16S1802F
R4865	RS1/16S2702F
R4868	RS1/16S4702F
Other Resistors	RS1/16S###J

OTHERS

K4801, K4802, K4805, K4806(TEST PIN)	AKX9002
K4809, K4810 (TEST PIN)	AKX9002
CN4801 (8P PLUG)	CKS3130

[IP BLOCK]

SEMICONDUCTORS

IC5101, IC5103	MS82V16520-8GA
IC5102	PE5066A
IC5001	PE5067A

CAPACITORS

C5017, C5121	CCSRCH220J50
C5006	CEHAT101M10
C5015, C5016	CEHAT221M6R3

Mark No. Description Part No.

C5001-C5005, C5007-C5013	CKSRYF104Z16
C5101-C5120	CKSRYF104Z16

RESISTORS

Other Resistors	RS1/16S###J
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OTHERS

5002 (HEAT SINK FOR IC)	ANH1574
5001 (HEAT SINK L FOR IC)	ANH1576

[DIGITAL SELECT BLOCK]

SEMICONDUCTORS

IC5201-IC5207	TC74LCX541FT
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CAPACITORS

C5201-C5207	CKSRYF104Z16
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RESISTORS

R5213	RAB4C103J
R5201-R5212, R5215, R5217	RAB4C470J
Other Resistors	RS1/16S###J

OTHERS

J5203 (10P HOUSING WIRE)	ADX2706
J5204 (11P HOUSING WIRE)	ADX2781
CN5201 (12P PLUG)	AKM1203

[IC30 BLOCK]

SEMICONDUCTORS

IC5302, IC5303	MS82V16520-8GA
IC5301	PD6357B

CAPACITORS

C5301, C5308	CEHAT101M10
C5302-C5307, C5309-C5322, C5324	CKSRYF104Z16

RESISTORS

Other Resistors	RS1/16S###J
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OTHERS

K5314-K5317 (TEST PIN)	AKX9002
X5301 (100.00MHz)	ASS1161

[MAIN UCOM BLOCK]

SEMICONDUCTORS

IC5502	24LC64(I)SN
IC5504, IC5509	74VHCT00AMTC
IC5512	LM50CIM3
IC5505	M30624FGAFP
IC5511	M5223AFP
IC5510	PST9246N
IC5503	TC74VHC541FT
IC5501	TC74VHCT541AFT
IC5506, IC5507	TC7W126FU
Q5501	2SJ461

Q5502, Q5503	DTA143EK
Q5504	HN1A01FU

CAPACITORS

C5512, C5513, C5521, C5534	CCSRCH220J50
C5526, C5527	CCSRCH7R0D50
C5545	CEHAT100M50
C5528, C5533	CEHAT470M16
C5507, C5508, C5511, C5518, C5522	CKSRYB102K50

Mark No.	Description	Part No.
C5529-C5531, C5536, C5537 C5535, C5538, C5539 C5524		CKSRYB102K50 CKSRYB221K50 CKSRYB472K50
C5525 C5502-C5505, C5509, C5514 C5516, C5517, C5519, C5520, C5523 C5541 C5542-C5544		CKSRYF103Z50 CKSRYF104Z16 CKSRYF104Z16 CKSRYF104Z16 CKSRYF105Z10

RESISTORS

R5503, R5509, R5510 R5535 R5504, R5526 R5569 R5571	RAB4C101J RAB4C103J RAB4C473J RS1/16S1001F RS1/16S1800F
R5566 R5563 Other Resistors	RS1/16S3001F RS1/16S5101F RS1/16S###J

OTHERS

CN5506 (30P PLUG) K5501, K5502, K5508-K5510, K5512 K5515, K5516, K5518 (TEST PIN) X5501 (16MHz) CN5501, CN5502 (8P PLUG)	AKM1204 AKX9002 AKX9002 ASS1159 CKS3130
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[WIDE UCOM BLOCK]

SEMICONDUCTORS

IC5601 IC5602 IC5604 IC5603 IC5605	HD64F2328VF MBM29LV400TC-90PFTN NC7SZ08P5 PST9228N TC7SH32FU
IC5607, IC5608	TC7WH74FU

CAPACITORS

C5601 C5615, C5616 C5611 C5612 C5604, C5606, C5608, C5610, C5613	CCSRCH102J50 CCSRCH7R0D50 CKSRYB472K50 CKSRYF103Z50 CKSRYF104Z16
C5617-C5619	CKSRYF104Z16

RESISTORS

R5603, R5604 Other Resistors	RAB4C103J RS1/16S###J
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OTHERS

X5601 (25MHz)	ASS1160
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[DIGITAL I/F BLOCK]

SEMICONDUCTORS

IC5701 IC5702 D5701	TC7WH123FU TC7WH74FU 1SS352
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CAPACITORS

C5703 C5701, C5702	CCSRCH471J50 CKSRYF104Z16
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Mark No.	Description	Part No.
<u>RESISTORS</u>		
R5701-R5707, R5709, R5712-R5719 R5721 R5730 Other Resistors		RAB4C101J RAB4C101J RS1/16S1003F RS1/16S###J

OTHERS

CN5701, CN5702 (50P CONNECTOR)	AKM1201
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VIDEO SLOT US2 ASSY [VIDEO I/O BLOCK]

SEMICONDUCTORS

IC7001 IC7002 IC7003 Q7001, Q7002, Q7004 Q7003, Q7005	NJM2234M TC4052BF UPC4570G2 2SC2412K HN1C01FU
D7001-D7003, D7006-D7011 D7004, D7005	1SS226 1SS355

CAPACITORS

C7001, C7002 C7008, C7011 C7003, C7005, C7007, C7010 C7009, C7012 C7014, C7021	CEANP470M25 CEAT100M50 CEAT220M50 CEAT4R7M50 CKSQYB105K10
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C7004 C7016, C7017, C7024, C7025 C7029, C7030 C7006, C7018, C7019, C7022, C7026	CKSRYB103K50 CKSRYB222K50 CKSRYB222K50 CKSRYF104Z16
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RESISTORS

Other Resistors	RS1/16S###J
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OTHERS

CN7002 (DIN SOCKET) JA7001 (BNC SOCKET 1P) JA7003-JA7005 (JACK 2P) 7005 (SCREW TERMINAL)	AKP1217 AKX1058 DKB1031 VNE1949
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[3D Y/C BLOCK]

SEMICONDUCTORS

IC7104 IC7101, IC7103 IC7102 Q7101-Q7103, Q7105, Q7108, Q7109 Q7107	IC41C16256-35K ML6428CS-1 UPD64082GF-3BA 2SA1037K 2SC2412K
Q7104 Q7106	DTC124EK HN1B04FU

COILS AND FILTERS

L7104, L7105 L7103 L7101 L7102	ATX1008 LCTA4R7J2520 LCYA120J2520 LCYA220J2520
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CAPACITORS

C7101 C7104, C7107 C7102, C7141, C7142 C7116	CCSRCH100D50 CCSRCH150J50 CCSRCH180J50 CCSRCH391J50
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C7108
C7128
C7105
C7134

CCSRCH470J50
CCSRCH471J50
CCSRCH560J50
CEAT100M50

C7315, C7324, C7328-C7333
C7343, C7344

CKSRYF104Z16
CKSRYF104Z16

RESISTORS

R7371
R7376
R7383
Other Resistors

RS1/16S1002F
RS1/16S4701F
RS1/16S8200F
RS1/16S###J

[HDMI INPUT BLOCK]

SEMICONDUCTORS

IC7502
IC7503
IC7501
IC7506
IC7505

24LC01B
24LC02B(I)SN
CXA1875AM
PCM1742KE
SII9993CTG100

RESISTORS

Other Resistors

RS1/16S###J

OTHERS

K7101, K7102 (TEST PIN)
X7101 (20MHz)

AKX9002
ASS1143

[CHROMA DECODE BLOCK]

SEMICONDUCTORS

IC7201
IC7202
Q7201, Q7202
Q7203, Q7205-Q7207
Q7204

BA7655AF
TB1274AF
2SA1037K
2SC2412K
HN1C01FU

D7201

1SS355

CAPACITORS

C7225
C7202
C7209, C7217, C7233
C7226
C7229

CCSRCH390J50
CCSRCH8R0D50
CEAT100M50
CEAT220M50
CEAT2R2M50

C7221
C7201
C7227, C7232
C7211
C7228, C7231

CEAT4R7M50
CEATR47M50
CKSQYB105K10
CKSRYB103K50
CKSRYB104K16

C7230
C7203-C7208, C7210, C7212-C7216
C7218-C7220, C7222-C7224

CKSRYB223K50
CKSRYF104Z16
CKSRYF104Z16

RESISTORS

Other Resistors

RS1/16S###J

OTHERS

K7201, K7206-K7208 (TEST PIN)
X7201 (16.2MHz)

AKX9002
ASS1152

[RGB SW BLOCK]

SEMICONDUCTORS

IC7301
IC7305
IC7303
Q7304, Q7306, Q7309

BA7657F
SM5301AS
TC7WH04FU
2SA1037K

CAPACITORS

C7301-C7303, C7313, C7319, C7323
C7308
C7325, C7338, C7345
C7307
C7314, C7334

CEANP220M16
CEAT101M6R3
CKSQYB105K10
CKSRYB471K50
CKSRYF103Z50

COILS AND FILTERS

F7501-F7504

ATF1194

CAPACITORS

C7548, C7569
C7537, C7574
C7510, C7511, C7513, C7516, C7519
C7521, C7523, C7524, C7531, C7532
C7534, C7550, C7552, C7554, C7556

CCSRCH181J50
CCSRCH681J50
CCSSCH101J50
CCSSCH101J50
CCSSCH101J50

C7558, C7559, C7562, C7581, C7583
C7585, C7587, C7589
C7535, C7540, C7546, C7547
C7566-C7568, C7573
C7526

CCSSCH101J50
CCSSCH101J50
CEAT100M50
CEAT100M50
CEAT220M50

C7527, C7545, C7563, C7570, C7571
C7502, C7508
C7501, C7503-C7507, C7517, C7522
C7536, C7544, C7564, C7565, C7572
C7575-C7580

CEAT221M6R3
CEAT470M10
CKSRYF104Z16
CKSRYF104Z16
CKSRYF104Z16

C7541
C7539
C7509, C7512, C7514, C7515, C7518
C7520, C7528-C7530, C7533, C7538
C7549, C7551, C7553, C7555, C7557

CKSSYB473K16
CKSSYF103Z50
CKSSYF104Z16
CKSSYF104Z16
CKSSYF104Z16

C7560, C7561, C7582, C7584, C7586
C7588, C7590
C7543

CKSSYF104Z16
CKSSYF104Z16
DCH1161

RESISTORS

R7502, R7515, R7576
R7568
R7596
R7635-R7640

RAB4C470J
RS1/16S3900F
RS1/16S3901F
RS1/16S75R0F

R7593
Other Resistors

RS1/16S91R0F
RS1/16S###J

OTHERS

JA7501 (HDMI CONNECTOR)
CN7501 (3P CONNECTOR)

AKP1232
B03B-XASK-1

[RGB BLOCK US2]

SEMICONDUCTORS

IC7701, IC7702
IC7705
IC7704
IC7703
D7701

PQ05DZ11
PQ3DZ13
SI-8033JD
TA79L05F
D1FM3

COILS AND FILTERS

F7701-F7710
L7701

ATF1194
ATH1158

CAPACITORS

C7704, C7716, C7739
C7701, C7707, C7730
C7706, C7712, C7718, C7720, C7722
C7724, C7727, C7729, C7733
C7735, C7736

CEAT101M6R3
CEAT221M16
CEAT470M25
CEAT470M25
CEAT470M25

C7710
C7702, C7703, C7705, C7708, C7709
C7711, C7713-C7715, C7717, C7719
C7721, C7723, C7725, C7726, C7728
C7731, C7732, C7734, C7737, C7738

CEAT471M10
CKSRYF104Z16
CKSRYF104Z16
CKSRYF104Z16
CKSRYF104Z16

RESISTORS

R7701
R7704
R7703
Other Resistors

RS1MMF1R5J
RS1MMF8R2J
RS2MMF1R5J
RS1/16S###J

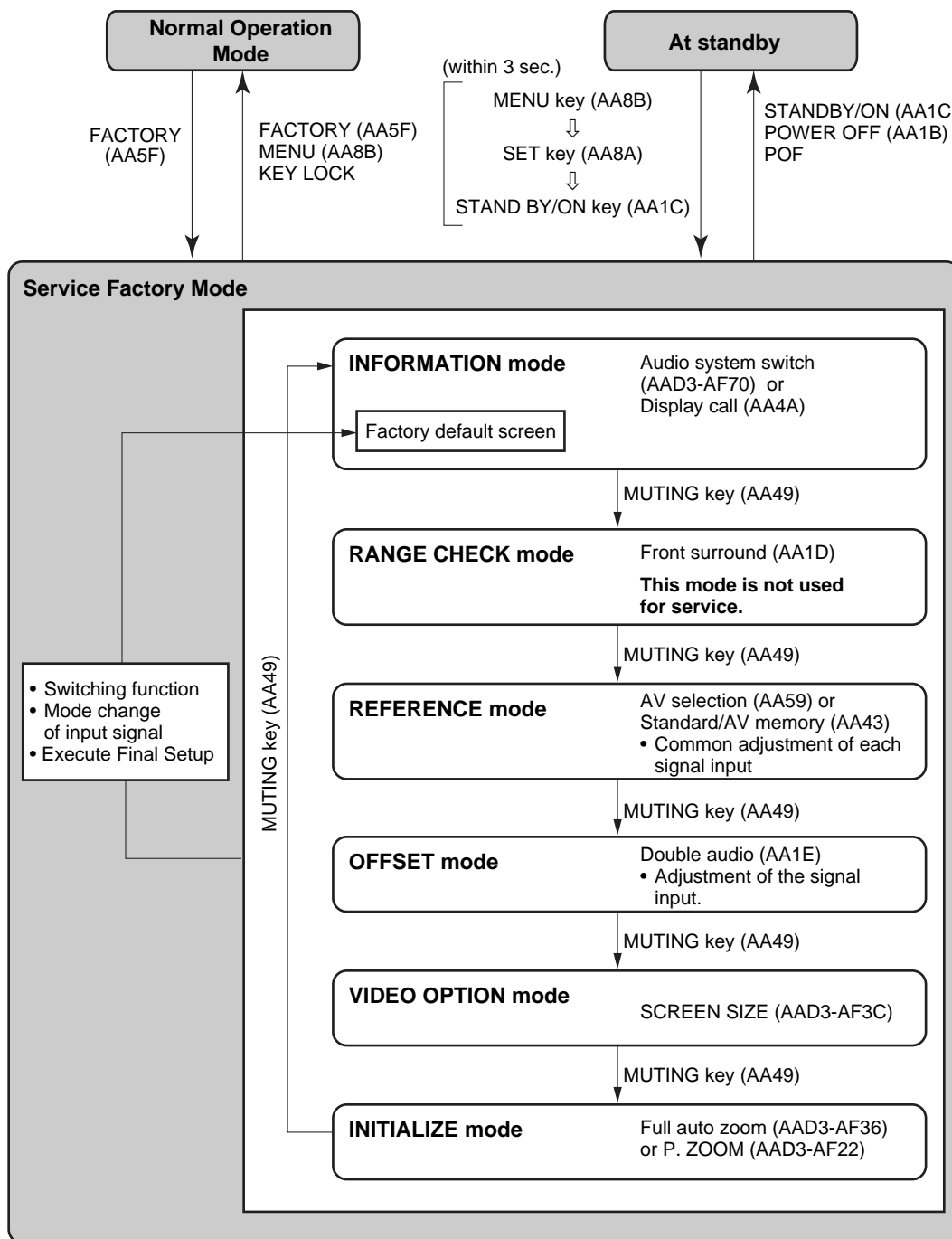
7. ADJUSTMENT

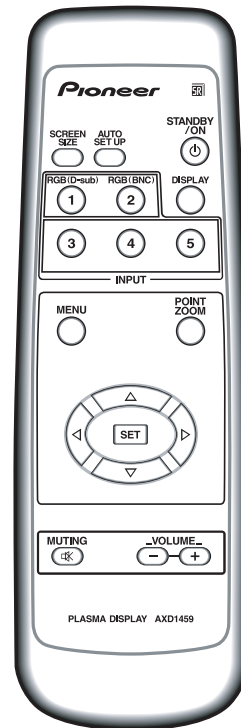


7.1 SERVICE FACTORY MODE

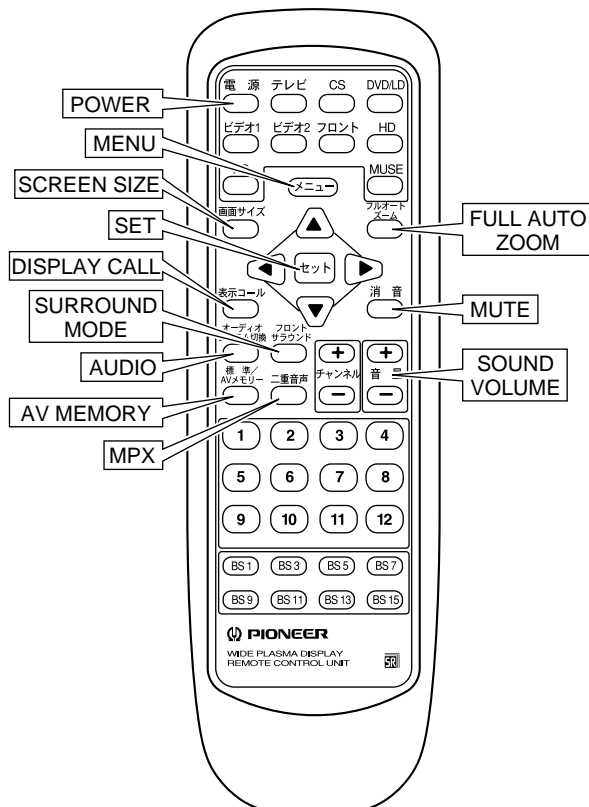
Commands in Service Factory mode must be issued using the remote control unit (AXD1459) supplied with the Plasma Display.

7.1.1 State Transition Diagram

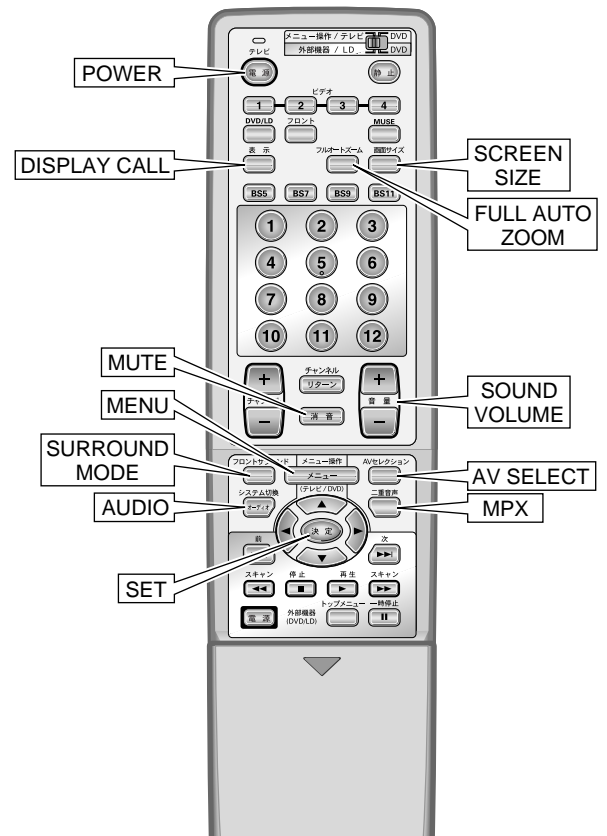




• AXD1459
(PRO-1000HDI)



• AXD1432
(PDP-501HD)



• AXD1673
(PDP-502HD)

■ Notes on Operation with the Remote Control Unit

- In this manual, keys that are not on the remote control unit (AXD1459) supplied with the Plasma Display are designated as direct-select keys.
- To select items in Service Factory mode with the AXD1459, press the following keys as many times as required:
For selection of main items: MUTE key
For selection of other items: ▲ (UP) or ▼ (DOWN) key

■ Change of Settings When Entering Service Factory Mode

① Settings of MENU mode

- The settings for PICTURE items are reset to the center values.
Note: The PICTURE adjustment values to be reset are limited to the following:
For VIDEO: Those for the current signal mode of the selected input function
For a PC: Tables A-H are reset according to the history of the input signal mode
- All settings for SCREEN items are reset to the center values.
Note: The SCREEN adjustment values to be reset are only those for the current signal mode of the selected input function.
This is because the adjustment values of the MENU mode can be reset to the center values by executing FINAL SETUP or PICTURE DEFAULT.
- The settings for SETUP and OPTION of the MENU mode are maintained, except for the following:
COLOR TEMP: It is reset to MIDDLE.
AUTO POWER OFF/POWER MANAGEMENT: The settings are maintained, but these functions do not work.

② Adjustment values of the Integrator mode

- The following adjustment values for PICTURE and WHITE BAL are reset to the default values:
Note: The PICTURE and WHITE BAL adjustment values to be reset are limited to the following:
For VIDEO: Those for the current signal mode of the selected input function
For a PC: Tables A-H are reset according to the history of the input signal mode.
- The SCREEN settings are maintained.
- The settings for SETUP and OPTION of the Integrator menu are maintained, except for the following:
SIDE MASK LEVEL: The adjustment values are reset to the default values.
FULL MASK that has been set in Integrator mode: Released
OFF TIMER: Released
- The COLOR MODE (Integrator menu) settings that have been set in the Integrator menu are maintained.

③ Others

- If the input signal mode is changed in Service Factory mode, settings are changed according to the input signal mode, Service Factory mode is maintained, and its default display (INFORMATION VERSION) appears.
Note: When the input signal mode is changed, settings are reset as shown in ① and ② above.
- If FUNCTION switching is executed in Service Factory mode, the function is switched to the selected one, Service Factory mode is maintained, and its default display (INFORMATION VERSION) appears.
Note: When the FUNCTION is changed, settings are reset as shown in ① and ② above.
- The COLOR DETECT setting is performed based on the COLOR SYSTEM selected in MENU mode.
- Only the data at addresses 0100 to 01FF of the module microcomputer/EEPROM are copied (updated) to the module microcomputer area of the main microcomputer EEPROM.
- Various panel protection functions (still-picture detection, block-brightness detection, SCAN IC protection function) are deactivated.
Note: The protection functions are kept deactivated even after you exit Service Factory mode. To reactivate these functions, after exiting Service Factory mode, be sure to turn the power off, then back on.
- While there is no input, The partial setting, or while incompatible PC signals are input, settings that are not dependent on the signal mode can be performed. (For the MASK setting, see "MASK 1," and "MASK 2.") The setting items that are dependent on the input signal mode are grayed on the display and cannot be changed.

7.1.2 Table of Adjustment Items in Service Factory

SLOT

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
CD	YDL	Y-DELAY	YDL	REF/OFS-SLOT-1	0 to 15 [8]
	YOUTLEV	Y-OUT LEVEL	YOL	REF/OFS-SLOT-2	0 to 63 [32]
	TINT	CD TINT	CTI	REF/OFS-SLOT-3	0 to 63 [32]
	CrOFFSET	CDR OFFSET	CDR	REF/OFS-SLOT-4	0 to 15 [8]
	CbOFFSET	CDB OFFSET	CDB	REF/OFS-SLOT-5	0 to 15 [8]
EXP	R-Y_LEVEL	R-Y LEVEL	LRV	REF/OFS-SLOT-6	0 to 255 [128]
	B-Y_LEVEL	B-Y LEVEL	LBV	REF/OFS-SLOT-7	0 to 255 [128]

RGB1

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
MATRIX	PICTURE	MAT CONT	MCT	REF/OFS-RGB1-1	0 to 63 [32]
	BRIGHT	MAT BRIGHT	MBR	REF/OFS-RGB1-2	0 to 63 [32]
	COLOR	MAT COLOR	MCL	REF/OFS-RGB1-3	0 to 63 [32]
	HUE	MAT TINT	MTI	REF/OFS-RGB1-4	0 to 63 [32]
AD	MAINCONTRAST	AD MAIN CONT	MCA	REF/OFS-RGB1-5	0 to 255 [128]
	SUBRCONTRAST	AD R HIGH	GHA	REF/OFS-RGB1-6	0 to 255 [128]
	SUBGCONTRAST	AD G HIGH	BHA	REF/OFS-RGB1-7	0 to 255 [128]
	SUBBCONTRAST	AD B HIGH	RHA	REF/OFS-RGB1-8	0 to 255 [128]
	BRIGHTR	AD R LOW	GLA	REF/OFS-RGB1-9	0 to 255 [128]
	BRIGHTG	AD G LOW	BLA	REF/OFS-RGB1-10	0 to 255 [128]
	BRIGHTB	AD B LOW	RLA	REF/OFS-RGB1-11	0 to 255 [128]

RGB2

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
IC102 W/B	COLOR	COLOR	COL	REF/OFS-RGB2-1	0 to 255 [128]
	TINT	TINT	TNT	REF/OFS-RGB2-2	0 to 255 [128]
IC30 W/B	MCONTRAST	CONTRAST	CNT	REF/OFS-RGB2-3	0 to 255 [128]
	MBRIGHT	BRIGHT	BRT	REF/OFS-RGB2-4	0 to 255 [128]
	R HIGH	R. HIGH	RHI	REF/OFS-RGB2-5	0 to 255 [255]
	G HIGH	G. HIGH	GHI	REF/OFS-RGB2-6	0 to 255 [255]
	B HIGH	B. HIGH	BHI	REF/OFS-RGB2-7	0 to 255 [255]
	R LOW	R. LOW	RLW	REF/OFS-RGB2-8	0 to 255 [128]
	G LOW	G. LOW	GLW	REF/OFS-RGB2-9	0 to 255 [128]
	B LOW	B. LOW	BLW	REF/OFS-RGB2-10	0 to 255 [128]

DIGITAL

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
DIGITAL	PANEL R-HIGH	PANEL R-HIGH	PRH	REF/OFS-DIGITAL-1	0 to 255 [255]
	PANEL G-HIGH	PANEL G-HIGH	PGH	REF/OFS-DIGITAL-2	0 to 255 [255]
	PANEL B-HIGH	PANEL B-HIGH	PBH	REF/OFS-DIGITAL-3	0 to 255 [255]
	PANEL R-LOW	PANEL R-LOW	PRL	REF/OFS-DIGITAL-4	0 to 999 [512]
	PANEL G-LOW	PANEL G-LOW	PGL	REF/OFS-DIGITAL-5	0 to 999 [512]
	PANEL B-LOW	PANEL B-LOW	PBL	REF/OFS-DIGITAL-6	0 to 999 [512]
	ABL LEVEL	ABL LEVEL	ABL	REF/OFS-DIGITAL-7	0 to 255 [128]
	X-SUS-B	X-SUS-B	XSB	REF-DIGITAL-8	4 to 12
	X-SUS-G	X-SUS-G	XSG	REF-DIGITAL-9	4 to 12
	Y-SUS-B	Y-SUS-B	YSB	REF-DIGITAL-10	4 to 12
	Y-SUS-G	Y-SUS-G	YSG	REF-DIGITAL-11	4 to 12
	V-SUS	V-SUS	VSU	REF-DIGITAL-12	0 to 255
	V-OFFSET	V-OFFSET	VOF	REF-DIGITAL-13	0 to 255

SIDE MASK LEVEL (VIDEO OPTION)

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
IC30	R SIDE MASK LEV	R SIDE MASK LEV	RSL	VOP-M LEV-1	0 to 255
	G SIDE MASK LEV	G SIDE MASK LEV	GSL	VOP-M LEV-2	0 to 255
	B SIDE MASK LEV	B SIDE MASK LEV	BSL	VOP-M LEV-3	0 to 255

COLOR TEMP (VIDEO OPTION)

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
IC102	COLOR	COLOR		VOP-CT-3	0 to 255 [128]
	TINT	TINT		VOP-CT-4	0 to 255 [128]
IC30	MCONTRAST	CONTRAST		VOP-CT-1	0 to 255 [128]
	MBRIGHT	BRIGHT		VOP-CT-2	0 to 255 [128]
	R HIGH	R. HIGH		VOP-CT-5	0 to 255 [255]
	G HIGH	G. HIGH		VOP-CT-6	0 to 255 [255]
	B HIGH	B. HIGH		VOP-CT-7	0 to 255 [255]
	R LOW	R. LOW		VOP-CT-8	0 to 255 [128]
	G LOW	G. LOW		VOP-CT-9	0 to 255 [128]
	B LOW	B. LOW		VOP-CT-10	0 to 255 [128]

COLOR MODE2 (VIDEO OPTION)

	Name	OSD Display Name	RS-232C Command	Service Factory Operation	Adjustment Range [OFFSET Reference Value]
IC102	COLOR	COLOR		VOP-CM2-3	0 to 255 [128]
	TINT	TINT		VOP-CM2-4	0 to 255 [128]
IC30	MCONTRAST	CONTRAST		VOP-CM2-1	0 to 255 [128]
	MBRIGHT	BRIGHT		VOP-CM2-2	0 to 255 [128]
	R HIGH	R. HIGH		VOP-CM2-5	0 to 255 [255]
	G HIGH	G. HIGH		VOP-CM2-6	0 to 255 [255]
	B HIGH	B. HIGH		VOP-CM2-7	0 to 255 [255]
	R LOW	R. LOW		VOP-CM2-8	0 to 255 [128]
	G LOW	G. LOW		VOP-CM2-9	0 to 255 [128]
	B LOW	B. LOW		VOP-CM2-10	0 to 255 [128]

■Calculation of Adjustment Value in Service Factory Mode

- An actual adjustment value in Service Factory mode is the addition of the REFERENCE adjustment value and OFFSET adjustment value, subtracted by the OFFSET reference value (values indicated in brackets in the above tables).

Note: As for the items that do not have OFFSET adjustment values (R SIDE MASK LEV, G SIDE MASK LEV, as well B SIDE MASK LEV of the SIDE MASK LEVEL items, and X-SUS-B, X-SUS-G, Y-SUS-B, Y-SUS-G, V-SUS, and V-OFFSET of the DIGITAL items), the REFERENCE adjustment value becomes the actual adjustment value.

- As for COLOR MODE 2 and COLOR TEMP, the adjustment value of the selected mode subtracted by its OFFSET reference value (value indicated in brackets in the above tables) becomes the OFFSET value. Adding this value to the adjustment value of each adjustment item in RGB2 becomes the final adjustment value for the RGB2 devices (IC30 and IC102).

■Actual Calculation Examples

- Each adjustment value of SLOT/ RGB 1/RGB2/DIGITAL (REFERENCE value)

+

{ (OFFSET value) – [OFFSET reference value] } ... Calculation of a value to be added as OFFSET

- COLOR MODE2 OFFSET value

{ (COLOR MODE2 adjustment value) - [OFFSET reference value] } ... Calculation of a value to be added as OFFSET for COLOR MODE2

Note: Add it only when COLOR MODE2 is selected.

- COLOR TEMP OFFSET value

{ (COLOR TEMP adjustment value) - [OFFSET reference value] } ... Calculation of a value to be added as OFFSET for COLOR TEMP

Note: Add it only when COLOR TEMP 1,2,4, or 5 is selected.

Perform the addition in the normal operation, menu mode and COLOR TEMP adjustment mode of the Service Factory mode (in item VIDEO OPTION), and add the OFFSET value of the selected setting.

The addition of the COLOR TEMP OFFSET value is not needed in Integrator mode or in Service Factory mode (except for COLOR TEMP adjustment mode,) because the unit operates with the COLOR TEMP 3 settings.

7.1.3 Description of Service Factory Menu Display

1. In Adjustment Item

	1	5	10	15	20	25	30	35	40
1			OFS-SLOT			#1-U2-IN4-04-2*NT			
5									
10									
15			Y-DELAY				:****(****)		
16									

Display color : White
 Halftone : Blue (second line/15th line for each 5 to 36 columns)
 When the input signal mode is not identified, the adjustment value is displayed with "_____" (_____), and the item indication is grayed.

- Second line / 6th to 16th columns : Display the higher layer of selection item ••• In Service Factory mode
- Second line / 6th to 7th columns : Display the ID No. ••• In RS-232C Factory mode
- Second line / 9th to 16th columns : Display the higher layer of selection item ••• In RS-232C Factory mode
- Second line / 19th to 20th columns : Current color mode setting
- Second line / 22th to 23th columns : Current slot type

Slot Type or Model Type	PDA-5002	PDP-503PRO and PRO-1000HD	Slot Manufactured by Other Vender	No SLOT	PRO-800HDI and PRO-1000HDI
Display	S1	US	T1 to T8	NO	U2

- Second line / 25th to 27th columns : Current function
- Second line / 29th to 32th columns : Current signal mode
- Second line / 32th columns : Current Screen size (See "Classification of input signal" for details in each value.)

Signal mode displays for mode 03, mode 31, mode E1, mode 61 or mode 71

Setting	Signal Mode Display
VIDEO	03
VGA	31
WVGA	E1
XGA	61
WXGA	71

Signal mode displays for mode 12 or mode 13

HDTV Mode Setting (Integrator Menu)	Signal Mode Display
1080i	12
1035i	13

Display in the no signal and incompatible signal

Signal Mode Display	Signal Definition
FB	OUT OF RANGE (Signal that cannot be measured with the main microcomputer)
FC	OUT OF RANGE (Video system signal without video signal)
FD	OUT OF RANGE (Incompatible signal at DVI input)
FE	OUT OF RANGE (Incompatible signal that is measurable with the main microcomputer, and not applicable to FC and FD)
FF	No signal

- Second line / 33th column : Current input form

Input Form	Component	Video-RGB	Composite	Y/C
Display	#	@	*	/

Non-display (blank) excepting above form.

- Second line / 34th to 35th columns : Current color system

Color System	NTSC	PAL	SECAM	4.43NTSC	PAL-M	PAL-N	BLACK/WHITE
Display	NT	PL	SC	4N	PM	PN	BW

Non-display (blank) in a case of a color system other than those mentioned above or when the COLOR SYSTEM setting is fixed.

- 15th line / 6th to 24th columns : Current item selection
- 15th line / 26th to 35th columns :

When RANGE CHECK is selected: Current selecting value

1. When REFERENCE is selected : Adjustment value
 2. When OFFSET is selected : OFFSET value (adjustment value) * Adjustment value is REFERENCE value + OFFSET value.
 3. When VIDEO OPTION is selected : No display
- When INITIALIZE is selected : Selected setting. (No display for an item having the lower layer.)

2. INFORMATION

1	5	10	15	20	25	30	35	40
1	INFO					#1-U2-IN4-02-2*NT		
5	VERSION							
	MAIN	UCOM	:	***				
	WIDE	UCOM	:	***				
	WIDE	FROM	:	***				
10	MODU	UCOM	:	***				
	PANE	UCOM	:	***				
	PANE	FROM	:	***				
15								
16								

• Basic Operation

- Display the state of each item

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	VERSION	Display of information for each item	Main, Wide, module and panel microcomputers : Ver Wide flash (OSD) / Panel flash (Sequence) : Ver	×
AA02	2	PD INFO		Past eight times / Place (1st, 2nd) / Time Stamp	×
AA03	3	NG INFO		AUDIO/FAN/MODULE/PANEL/WIDE/ MAIN IIC/MODULE IIC/DEW	×
AA04	4	TEMPERATURE		1/2/3/FAN output	×
AA05	5	MEMO		Display MEMO	×
AA06	6				
AA07	7				
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»				
AA95	«				
AA8A	SET				
AAD3-AF70 AA4A	AUDIO DISPLAY CALL	Shifting to various adjustment / setting screen.	INFORMATION		
AA1D	SURROUND MODE		RANGE CHECK		
AA59 AA43	AV SELECT AV MEMORY		REFERENCE		
AA1E	MPX		OFFSET		
AAD3-AF3C	SCREEN SIZE		VIDEO OPTION		
AAD3-AF36 AAD3-AF22	FULL AUTO ZOOM P.ZOOM		INITIALIZE		
AA49	MUTING	Shifting to next adjustment / setting screen.	RANGE CHECK		

• Operating specifications

- When this mode is entered, the VERSION display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys are pressed, the corresponding operation is executed.

Note: The VERSION display is the default display for Service Factory mode.

3. OSD Display in INFORMATION

① VERSION

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

② PD INFO.

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

The power down point (1st or 1st and 2nd) and an hour meter at the time of the power down are displayed.

Up to eight power-downs are displayed. If the number of power-downs becomes more than 8, the latest data are added, and the oldest data are cleared.

Display details at PD INFORMATION

	Display	PD Point		Display	PD Point
1	X-DRV	X-DRIVE	5	ADRES	ADDRESS junction
2	X-DDC	X-DC/DC CONVERTER	6	ADR-K	ADDRESS resonance
3	Y-DRV	Y-DRIVE	7	POWER	Power supply
4	Y-DDC	Y-DC/DC CONVERTER	8	DC-DC	DC/DC CONVERTER (DIGITAL)

③ NG INFO.

	1	5	10	15	20	25	30	35	40
A	1		INFO				#1-U2-IN4-02-2*NT		
			NG	INFO					
	5								
		1	WIDE						
		2	WIDE						
		3	MODULE						
	10	4	MAIN IIC						
		5	---						
		6	---						
		7	---						
		8	---						
	15								
B	16								

The shutdown point is displayed.

Up to eight shutdown points are displayed. If the number of shutdowns becomes more than 8, the latest data are added, and the oldest data are cleared.

Display details at NG INFO

Display	Shutdown Point	Display	Shutdown Point
PANEL	Communication failure of the panel microcomputer	MODULE	Communication failure of the module microcomputer
MOD IIC	Communication failure of the module IIC	WIDE	Wide microcomputer
DEW	Condensation	MAIN IIC	Communication failure of the main IIC
TEMP	Abnormally high temperature	AUDIO	Failure in audio system
FAN	Failure in fans		

④ TEMPERATURE

	1	5	10	15	20	25	30	35	40
	1		INFO				#1-U2-IN4-02-2*NT		
			TEMPERATURE						
	5								
		TEMP1		:	128				
		TEMP2		:	104				
		TEMP3		:	088				
	10	FAN		:	135				
	15								
	16								

- Indicated values are those for microcomputer A/D input or D/A output (0 to 255).
- Temperature sensors 1, 2 and 3
- FAN

Note: Refer to "Shutdown diagnosis" in the "7.1.2 DIAGNOSIS FOR SHUTDOWN AND POWER-DOWN BY LED" to calculate real sensor temperature from each indicated value.

⑤ MEMO

	1	5	10	15	20	25	30	35	40
	1		INFO				#1-U2-IN4-02-2*NT		
			MEMO						
	5								
	10								
	15								
F	16								

4. REFERENCE

1	5	10	15	20	25	30	35	40
1	REF					#1-U2-I N4-02-2*NT		
5								
10								
15	RGB1							
16								

Display color : White
 Halftone : Blue (Second line / 15th line
 for each 5th to 36th columns)

●Basic Operation

- Select the adjustment table.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	RGB1	Selection of the adjustment table		○
AA02	2	RGB2			○
AA03	3	DIGITAL			○
AA04	4	SLOT			○
AA05	5				
AA06	6				
AA07	7				
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»				
AA95	«				
AA8A	SET	Selection of the item and shift to lower layer			
AAD3-AF70 AA4A	AUDIO DISPLAY CALL	Shifting to various adjustment / setting screen	INFORMATION		
AA1D	SURROUND MODE		RANGE CHECK		
AA59 AA43	AV SELECT AV MEMORY		REFERENCE		
AA1E	MPX		OFFSET		
AAD3-AF3C	SCREEN SIZE		VIDEO OPTION		
AAD3-AF36 AAD3-AF22	FULL AUTO ZOOM P.ZOOM		INITIALIZE		
AA49	MUTING	Shifting to next adjustment / setting screen	OFFSET		

●Operating specifications

- If this setting screen is displayed when the unit is shifted from another mode, the RGB1 display (the function called by pressing the "1" key) is displayed first. If the unit is shifted back from a lower-layer display of this setting screen, the originally selected item will be displayed.
- When any of the above keys is pressed, the corresponding operation is executed.
- Items that cannot be selected are grayed on the display.

① REFERENCE — RGB1

1	5	10	15	20	25	30	35	40
1	REF	RGB1		#1	U2	IN4	02	2*NT
5								
10								
15	MAT	CONT						
16								

Display color : White
 Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remark	Lower Layer
AA01	1	MAT CONT	Retrieval and display of the adjustment value		×
AA02	2	MAT BRIGHT			×
AA03	3	MAT COLOR			×
AA04	4	MAT TINT			×
AA05	5	AD MAIN CONT			×
AA06	6	AD R HIGH			×
AA07	7	AD G HIGH			×
AA08	8	AD B HIGH			×
AA09	9	AD R LOW			×
AA00	10	AD G LOW			×
AA46	11	AD B LOW			×
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen.	OFFSET		
AAD3-AF22	P.ZOOM				
AA49	MUTING				

●Operating specifications

- When this mode is entered, the MAT CONT display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "____," and the item indication is grayed.

② REFERENCE — RGB2

1	5	10	15	20	25	30	35	40
1	REF - RGB2				#1 - U2 - IN4 - 02 - 2 * NT			
5								
10								
15	CONTRAST				: * * *			
16								

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	CONTRAST	Retrieval and display of the adjustment value		×
AA02	2	BRIGHT			×
AA03	3	COLOR			×
AA04	4	TINT			×
AA05	5	R HIGH			×
AA06	6	G HIGH			×
AA07	7	B HIGH			×
AA08	8	R LOW			×
AA09	9	G LOW			×
AA00	10	B LOW			×
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen.	OFFSET		
AAD3-AF22	P.ZOOM				
AA49	MUTING				

●Operating specifications

- When this mode is entered, the CONTRAST display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "____," and the item indication is grayed.

③ REFERENCE — DIGITAL

1	5	10	15	20	25	30	35	40
1	REF-DIG			#1-U2-IN4-02-2*NT				
5								
10								
15	PANEL R-HIGH			:	*	*	*	
16								

Display color : White
 Half tone : Blue (second line / 15th line
 for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	PANEL R-HIGH	Retrieval and display of the adjustment value		×
AA02	2	PANEL G-HIGH			×
AA03	3	PANEL B-HIGH			×
AA04	4	PANEL R-LOW			×
AA05	5	PANEL G-LOW			×
AA06	6	PANEL B-LOW			×
AA07	7	ABL LEVEL			×
AA08	8	X-SUS-B			×
AA09	9	X-SUS-G			×
AA00	10	Y-SUS-B			×
AA46	11	Y-SUS-G			×
AA47	12	V-SUS			×
AA4D	BS1	V-OFFSET			×
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL				
AA1D	SURROUND MODE		RANGE CHECK		
AA59	AV SELECT		REFERENCE		
AA43	AV MEMORY		OFFSET		
AA1E	MPX		VIDEO OPTION		
AAD3-AF3C	SCREEN SIZE		INITIALIZE		
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen			
AAD3-AF22	P.ZOOM				
AA49	MUTING		OFFSET		

●Operating specifications

- When this mode is entered, the PANEL R-HIGH display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "____," and the item indication is grayed.

④ REFERENCE — SLOT

1	5	10	15	20	25	30	35	40
1	REF-SLOT				#1-U2-IN4-02-2*NT			
5								
10								
15	Y-DELAY				:***			
16								

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

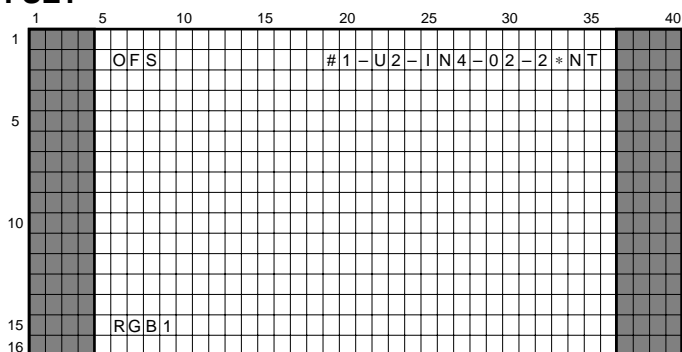
Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	Y-DELAY	Retrieval and display of the adjustment value		×
AA02	2	Y-OUT LEVEL			×
AA03	3	CD TINT			×
AA04	4	CDR OFFSET			×
AA05	5	CDB OFFSET			×
AA06	6	R-Y LEVEL			×
AA07	7	B-Y LEVEL			×
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen	OFFSET		
AAD3-AF22	P.ZOOM				
AA49	MUTING				

●Operating specifications

- When this mode is entered, the Y-DELAY display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "____," and the item indication is grayed.

5. OFFSET



Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Select the adjustment table

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	RGB1	Selection of the adjustment table		○
AA02	2	RGB2			○
AA03	3	DIGITAL			○
AA04	4	SLOT			○
AA05	5				
AA06	6				
AA07	7				
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»				
AA95	«				
AA8A	SET	Selection of the item and shifting to lower layer			
AAD3-AF70 AA4A	AUDIO DISPLAY CALL	Shifting to various adjustment / setting screen	INFORMATION		
AA1D	SURROUND MODE		RANGE CHECK		
AA59 AA43	AV SELECT AV MEMORY		REFERENCE		
AA1E	MPX		OFFSET		
AAD3-AF3C	SCREEN SIZE		VIDEO OPTION		
AAD3-AF36 AAD3-AF22	FULL AUTO ZOOM P.ZOOM		INITIALIZE		
AA49	MUTING	Shifting to next adjustment / setting screen	VIDEO OPTION		

●Operating specifications

- If this setting screen is displayed when the unit is shifted from another mode, the RGB1 display (the function called by pressing the "1" key) is displayed first. If the unit is shifted back from a lower-layer display of this setting screen, the originally selected item will be displayed.
- When any of the above keys is pressed, the corresponding operation is executed.
- Items that cannot be selected are grayed on the display.
- Selection of each item is impossible when there is no input signal.

① OFFSET — RGB1

1	5	10	15	20	25	30	35	40
1	OFS	RGB1	#1	U2	IN4	02	2	*NT
5								
10								
15	MAT	CONT						
16								

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	MAT CONT	Retrieval and display of the adjustment value		×
AA02	2	MAT BRIGHT			×
AA03	3	MAT COLOR			×
AA04	4	MAT TINT			×
AA05	5	AD MAIN CONT			×
AA06	6	AD R HIGH			×
AA07	7	AD G HIGH			×
AA08	8	AD B HIGH			×
AA09	9	AD R LOW			×
AA00	10	AD G LOW			×
AA46	11	AD B LOW			×
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	≫	Increasing the adjustment value of the selected parameter			
AA95	≪	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL				
AA1D	SURROUND MODE		RANGE CHECK		
AA59	AV SELECT		REFERENCE		
AA43	AV MEMORY		OFFSET		
AA1E	MPX		VIDEO OPTION		
AAD3-AF3C	SCREEN SIZE		INITIALIZE		
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen			
AAD3-AF22	P.ZOOM		VIDEO OPTION		
AA49	MUTING				

●Operating specifications

- When this mode is entered, the MAT CONT display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "____(____)," and the item indication is grayed.

② OFFSET — RGB2

	1	5	10	15	20	25	30	35	40						
1															
			OFS-RGB2			#1-U2-IN4-02-2*NT									
5															
10															
15															
16			CONTRAST			:	*	*	*	(*	*	*)	

Display color : White
 Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	CONTRAST	Retrieval and display of the adjustment value		×
AA02	2	BRIGHT			×
AA03	3	COLOR			×
AA04	4	TINT			×
AA05	5	R HIGH			×
AA06	6	G HIGH			×
AA07	7	B HIGH			×
AA08	8	R LOW			×
AA09	9	G LOW			×
AA00	10	B LOW			×
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen	VIDEO OPTION		
AAD3-AF22	P.ZOOM				
AA49	MUTING		VIDEO OPTION		

●Operating specifications

- When this mode is entered, the CONTRAST display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with " ____ (____)," and the item indication is grayed.

③ OFFSET — DIGITAL

1	5	10	15	20	25	30	35	40																															
1	OFS-DIG										#1-U2-IN4-02-2*NT																												
5																																							
10																																							
15	PANEL R-HIGH										:*** (***)																												
16																																							

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	PANEL R-HIGH	Retrieval and display of the adjustment value		×
AA02	2	PANEL G-HIGH			×
AA03	3	PANEL B-HIGH			×
AA04	4	PANEL R-LOW			×
AA05	5	PANEL G-LOW			×
AA06	6	PANEL B-LOW			×
AA07	7	ABL LEVEL			×
AA08	8	X-SUS-B	-	Selection is possible, but setting is impossible	×
AA09	9	X-SUS-G			×
AA00	10	Y-SUS-B			×
AA46	11	Y-SUS-G			×
AA47	12	V-SUS			×
AA4D	BS1	V-OFFSET			×
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	≫	Increasing the adjustment value of the selected parameter			
AA95	≪	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen	VIDEO OPTION		
AAD3-AF22	P.ZOOM				
AA49	MUTING				

●Operating specifications

- When this mode is entered, the PANEL R-HIGH display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "___(___)," and the item indication is grayed.
- As the items X-SUS-B, X-SUS-G, Y-SUS-B, Y-SUS-G, V-SUS, and V-OFFSET do not have OFFSET adjustment values, making settings is not allowed. These items are grayed, and the adjustment values are displayed with "___(___)."

④ OFFSET — SLOT

1	5	10	15	20	25	30	35	40
1	OFS	SLOT			#1-U2-IN4-02-2*NT			
5								
10								
15	Y-DELAY							
16								

Display color : White
 Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	Y-DELAY	Retrieval and display of the adjustment value		×
AA02	2	Y-OUT LEVEL			×
AA03	3	CD TINT			×
AA04	4	CDR OFFSET			×
AA05	5	CDB OFFSET			×
AA06	6	R-Y LEVEL			×
AA07	7	B-Y LEVEL			×
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen	VIDEO OPTION		
AAD3-AF22	P.ZOOM				
AA49	MUTING				

●Operating specifications

- When this mode is entered, the Y-DELAY display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- When the input signal mode is not identified, the adjustment value is displayed with "___(___)," and the item indication is grayed.

6. VIDEO OPTION

[illegible]

Display color : White
Half tone : Blue (second line / 15th line for
each 5 to 36th columns)

- **Basic Operation**

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	SIDE MASK LEV	Selection of the adjustment item	Shift to adjustment screen of SIDE MASK LEVEL with SET (AA8A)	○
AA02	2	C MODE2		Shift to adjustment screen of COLOR MODE2 with SET (AA8A)	○
AA03	3	C TEMP LOW		Shift to adjustment screen of COLOR TEMP LOW with SET (AA8A)	○
AA04	4	C TEMP MID LOW		Shift to adjustment screen of COLOR TEMP MID LOW with SET (AA8A)	○
AA05	5	C TEMP MID HIGH		Shift to adjustment screen of COLOR TEMP MID HIGH with SET (AA8A)	○
AA06	6	C TEMP HIGH		Shift to adjustment screen of COLOR TEMP HIGH with +SET (AA8A)	○
AA07	7				
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»				
AA95	«				
AA8A	SET	Selection of the item and shift to adjustment screen			
AAD3-AF70 AA4A	AUDIO DISPLAY CALL	Shifting to various adjustment / setting screen	INFORMATION		
AA1D	SURROUND MODE		RANGE CHECK		
AA59 AA43	AV SELECT AV MEMORY		REFERENCE		
AA1E	MPX		OFFSET		
AAD3-AF3C	SCREEN SIZE		VIDEO OPTION		
AAD3-AF36 AAD3-AF22	FULL AUTO ZOOM P.ZOOM		INITIALIZE		
AA49	MUTING	Shifting to next adjustment / setting screen	INITIALIZE		

●Operating specifications

- If this setting screen is displayed when the unit is shifted from another mode, the SIDE MASK LEVEL display (the function called by pressing the "1" key) is displayed first. If the unit is shifted back from a lower-layer display of this setting screen, the originally selected item will be displayed.
- When any of the above keys is pressed, the corresponding operation is executed.
- COLOR MODE setting during COLOR MODE adjustment
When Service Factory mode is entered, the settings for COLOR MODE become those that set on the Integrator menu. However, during COLOR MODE 2 adjustment, the unit operates in COLOR MODE 2 regardless of the settings made on the Integrator menu.
- COLOR TEMP setting during COLOR TEMP adjustment
When Service Factory mode is entered, the setting for COLOR TEMP becomes MIDDLE regardless of the user's setting. During COLOR TEMP adjustment, the unit operates in the selected COLOR TEMP mode.

① SIDE MASK LEV. Adjustment

	1		5		10		15		20		25		30		35		40
1																	

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	R SIDE MASK LEV	Retrieval and display of the adjustment value		×
AA02	2	G SIDE MASK LEV			×
AA03	3	B SIDE MASK LEV			×
AA04	4				
AA05	5				
AA06	6				
AA07	7				
AA08	8				
AA09	9				
AA00	10				
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	≫	Increasing the adjustment value of the selected parameter			
AA95	≪	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen	INITIALIZE		
AAD3-AF22	P.ZOOM				
AA49	MUTING		INITIALIZE		

●Operating specifications

- When this mode is entered, the R SIDE MASK LEVEL display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.

② COLOR MODE2 Adjustment

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

The color mode indicated on the second line, 35th column is the default setting and does not change according to the color mode being adjusted.

Display color : White
Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	CONTRAST	Retrieval and display of the adjustment value		×
AA02	2	BRIGHT			×
AA03	3	COLOR			×
AA04	4	TINT			×
AA05	5	R HIGH			×
AA06	6	G HIGH			×
AA07	7	B HIGH			×
AA08	8	R LOW			×
AA09	9	G LOW			
AA00	10	B LOW			
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70 AA4A	AUDIO DISPLAY CALL	Shifting to various adjustment / setting screen	INFORMATION		
AA1D	SURROUND MODE		RANGE CHECK		
AA59 AA43	AV SELECT AV MEMORY		REFERENCE		
AA1E	MPX		OFFSET		
AAD3-AF3C	SCREEN SIZE		VIDEO OPTION		
AAD3-AF36 AAD3-AF22	FULL AUTO ZOOM P.ZOOM		INITIALIZE		
AA49	MUTING	Shifting to next adjustment / setting screen	INITIALIZE		

●Operating specifications

- When this mode is entered, the CONTRAST display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- During COLOR MODE adjustment, the setting becomes COLOR MODE 2, and the adjusted value will be stored in memory, but the color mode setting will not be stored after adjustment is completed.

③ COLOR TEMP Adjustment

	1	5	10	15	20	25	30	35	40																												
1	VOP-CT MID H #1-U2-IN4-02-2*NT																																				
5																																					
10																																					
15	CONTRAST : * * * *																																				
16																																					

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

● Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	CONTRAST	Retrieval and display of the adjustment value		×
AA02	2	BRIGHT			×
AA03	3	COLOR			×
AA04	4	TINT			×
AA05	5	R HIGH			×
AA06	6	G HIGH			×
AA07	7	B HIGH			×
AA08	8	R LOW			×
AA09	9	G LOW			×
AA00	10	B LOW			×
AA46	11				
AA47	12				
AA4D	BS1				
AA4E	BS3				
AA4F	BS5				
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Increasing the adjustment value of the selected parameter			
AA95	«	Decreasing the adjustment value of the selected parameter			
AA8A	SET	Storing the adjustment value and shifting to the next higher layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen	INITIALIZE		
AAD3-AF22	P.ZOOM				
AA49	MUTING		INITIALIZE		

● Operating specifications

- When this mode is entered, the CONTRAST display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- During COLOR TEMP adjustment, the unit operates with the selected COLOR TEMP setting, and the adjusted value will be stored in memory, but the COLOR TEMP setting will return to MIDDLE after adjustment is completed.

•Operating specifications

- If this setting screen is displayed when the unit is shifted from another mode, the COLOR DET display (the function called by pressing the "1" key) is displayed first. If the unit is shifted back from a lower-layer display of this setting screen, the originally selected item will be displayed.
- When any of the above keys is pressed, the corresponding operation is executed.
- As for the following items, the adjusted values will be stored in memory: COLOR DET., ACL SW, INTE. MODE, MEMO, VIDEO STANDARD, PC STANDARD, VIDEO MODE 1, PC MODE 1, HOURMETER SET, PULSEMETER SET, FINAL SETUP, MASK 1, MASK 2, and PICTURE DEFAULT.

•Function description

1. COLOR DET. : The color detection system is set.

→ EURO → SA → ALL →

2. EEP CHECK: EEPROM writing is checked.

The rightmost two digits in hexadecimal notation from the results of addition of data at subaddresses 1760-177C (PDC XGA/SHARP data) of the EEPROM are displayed.

3. ACL SW: The ACL is set.

4. INTEGRATOR MODE: The integrator protection is set.

5. P&P WRITE ENA: The writing permission of the EEPROM for Plug & Play is set.

6. HOURMETER SET: The hourmeter is displayed and set.

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

The upper three digits of SET DATA can be changed:

▲▼ : To select numbers

◀▶ : To select one of the upper three digits to be changed

SET : To register the setting and shift to the confirmation screen for setting changes.

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

◀▶ : To select YES or NO

SET : When YES is selected, the SET DATA are stored in memory, and the initial display appears. When NO is selected, NOW DATA is maintained, and the initial display appears.

7. PULSEMETER SET: The pulse meter is displayed and set.

	1	5	10	15	20	25	30	35	40
1									
5									
10									
15									
16									

The upper three digits of SET DATA can be changed:

▲▼ : To select numbers

◀▶ : To select one of the upper three digits to be changed

SET : To register the setting and shift to the confirmation screen for setting changes.

A

1	5	10	15	20	25	30	35	40
1	INIT			#1-U2-IN4-02-2*NT				
5								
10			PULSEMETER	SET	?			
15			YES	NO				
16								

《》 : To select YES or NO

SET : When YES is selected, the SET DATA are stored in memory, and the initial display appears.
When NO is selected, NOW DATA is maintained, and the initial display appears.

B

8. FINAL SETUP: Factory preset values are set.
(See FINAL SETUP Details.)
9. VIDEO STANDARD: The peak occurrences of STANDARD (USER MENU / POWER CONTROL) in the video system signal is set.
(Table 1 setting in the following table.) Note: Please do not change settings during service.
10. PC STANDARD: The peak occurrences of STANDARD (USER MENU / POWER CONTROL) in the PC system signal is set.
(Table 2 setting in the following table.) Note: Please do not change settings during service.
11. VIDEO MODE1: The peak occurrences of MODE1 (USER MENU / POWER CONTROL) in the video system signal is set.
(Table 3 setting in the following table.) Note: Please do not change settings during service.
12. PC MODE1: The peak occurrences of MODE1 (USER MENU / POWER CONTROL) in the PC system signal is set.
(Table 4 setting in the following table.) Note: Please do not change settings during service.

C

		Current Input Signal	
		VIDEO	PC
POWER CONTROL setting	STANDARD mode	Table1	Table2
	MODE1	Table3	Table4
	MODE2	PL6 (fixed)	

13. EEP DATA READ: Data on each address of the EEPROM are displayed.

1	5	10	15	20	25	30	35	40
1	INIT			#1-U2-IN4-02-2*NT				
5								
10								
15	EEP DATA READ			: 10FF-80				
16								

《》 : To select a digit (four digits) of an address

▲▼ : To select numbers

SET : To shift to the next higher layer

Displayed data for each address are updated each time the address is changed.

Display color : White (Selected address is yellow)

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

D

E

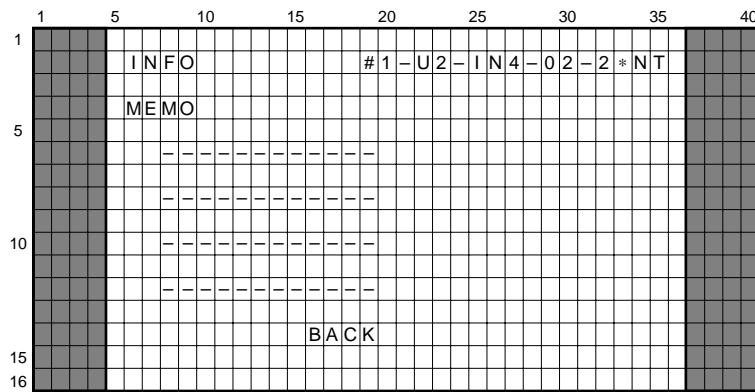
14. MASK1: To select the full mask. (Refer to "① MASK1" .)
Note: The last setting for either MASK 1 or MASK 2 is stored in memory.
15. MASK2: To select the mask pattern. (Refer to "② MASK2" .)
Note: The last setting for either MASK 1 or MASK 2 is stored in memory.

Notes on MASK 1 and MASK 2

- When any key is pressed, an OSD is displayed for two seconds, and during this period the full mask signal output is stopped.
- When the full mask is selected on the MASK selection menu, two seconds after the full mask is selected (with no key pressed during this period,) the displayed OSD disappears, then full mask is displayed in turn.
- To release the mask setting, use "M00" of RS-232C Factory Adjustment mode or "MASK OFF" of Service Factory menu.
(The mask setting cannot be released with FULL MASK OFF of the Integrator menu or "FMN" of the RS-232C Factory Adjustment mode.)

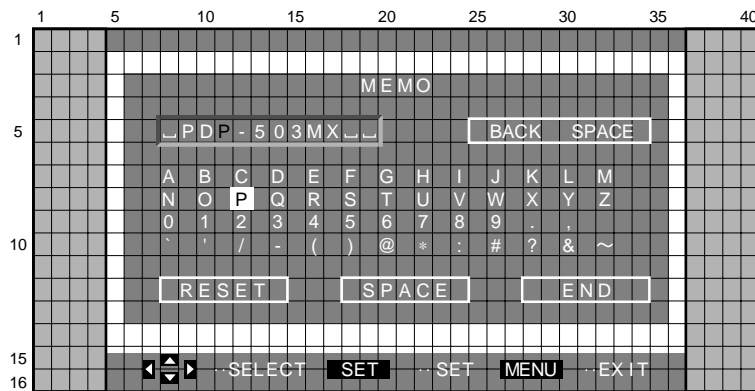
F

16. MEMO: Memo data are displayed and edited.



<MEMO/SELECT>

- With the ▲ or ▼ key, a MEMO to be edited can be selected.
- If you press the SET key, the screen shifts to MEMO/EDIT.
- If you select BACK and then press the SET key, the screen shifts to the next higher layer.



<MEMO/EDIT>

- For details on editing, see "INPUT Label" of the user menu.
- The default display is "_____". (□: Space)
- When RESET is selected, the setting is reset to the default.

17. SERVICE PARTS : The PD number of the module microcomputer is rewritten to the parts recognition number for service. See "7.1.3 AUTOMATIC BACKUP OF DIGITAL VIDEO ASSY DATA".

Parts recognition number for service: Modify the leftmost digit of the PD number to F

Example: F691 (an original PD number is 5691).

Note: Modification of the PD number to the ID number for service is needed only for the EEPROM of the module microcomputer.

The ID number for service in the data area of the module microcomputer in the EEPROM of the main microcomputer must not be changed.

18. PICTURE DEFAULT

- The data adjusted in Service Factory mode will become the new default settings for PICTURE, WHITE BAL, and SIDE MASK LEVEL of the Integrator menu.
- As long as PICTURE DEFAULT or FINAL SETUP is not executed, the settings made in Service Factory mode are not reflected in the video output data in modes other than Service Factory mode.
- To make the values adjusted during Service Factory mode go into force, PICTURE DEFAULT must be executed after adjustment.

Note: If PICTURE DEFAULT is executed:

- ① All the PICTURE items set on the user menu are reset.
- ② The values for PICTURE, WHITE BAL, and SIDE MASK LEVEL of the Integrator menu will become those of current adjustment values of Service Factory mode.

• FINAL SETUP Details

Items		Initial Setting	Remarks
Key input of the remote control unit			
Power supply (STANDBAY/ON)			No care
Input function		INPUT1	
Screen size	VIDEO	WIDE	(When the video signal is input)For each input function
	PC	① DOT BY DOT ② 4:3 (iincluding TYPE) ③ FULL (iincluding TYPE)	(When the PC signal is input) For each input function and signal mode Priority is ① → ② → ③
Vertical position adjustment (V scroll)		0	For each input function (at ZOOM)
KEYLOCK		UNLOCK	Common to all input functions
VOLUME		0	
User menu setting			
PICTURE		Default value for all adjustment items	For each input function and signal mode
SCREEN		Default value for all adjustment items	For each input function and signal mode
INPUT LABEL		□INPUT*□	(*:1 to 5).For each input function
AUTO POWER OFF		OFF	For each input function (Except INPUT1 for PC)
POWER MANAGEMENT		OFF	INPUT1 (at PC)
COLOR TEMP		MIDDLE	For each input function(at VIDEO)
DIGITAL NR		LOW	
HIGH CONTRAST		OFF	
PURECINEMA		OFF	For each input function (at 525i (NTSC))
CLAMP POSITION		AUTO	For each INPUT1/2
3D Y/C MODE		MOTION	For each INPUT4
SETTING		VGA(at mode 03, 31, E1)	For INPUT1/2
		XGA(at mode 61,71,63,73)	
VIDEO SIGNAL		RGB (INPUT1/2)	For INPUT1/2/5
		AUTO (INPUT5)	
SIGNAL RANGE		AUTO	INPUT5
AUDIO SELECT		AUTO	INPUT5
POWER CONTROL		STANDARD	(VIDEO/PC) Common to all input functions
AUTO FUNCTION		OFF	Common to all input functions
AUDIO OUT		FIXED	
Integrator menu setting Item			
PICTURE		Default value for all adjustment items	For each input function and signal mode
WHITE BALANCE		Default value for all adjustment items	
SCREEN		Default value for all adjustment items	
2 x 2 MODE		OFF/Upper left	For each input function
BRT.ENHANCE	VIDEO	OFF	For each function that can be controlled by the VIDEO
	PC	OFF	For each function that can be controlled by the PC
HDTV MODE		1080i	Common all input functions
VIDEO INPUT		COMPONENT1	750p/1125i/1125p
		COMPONENT2	525i/525p/625i/625p
SUB VOLUME		60	For each input function
OSD		ON	Common to all units
BAUD RATE		4800BPS	
TIMER		OFF/1/0.0/WHT	(Setting/Timer time/Mask time/Mask color) Common to all input functions
FULL MASK		OFF	Common to all units
SIDE MASK	R LEVEL	Default value	
	G LEVEL	Default value	
	B LEVEL	Default value	

MASK CONTROL	ON	
ORBITER MODE	OFF	
INVERSE MODE	OFF	
COLOR MODE	MODE1	
MIRROR MODE	OFF	
FAN CONTROL	AUTO	
MONITOR NAME	□□□PLASMA□□□	
ID NO SET	--	
Factory Setting Item		
INTE MODE	UNLOCK	Common to all units
MASK1/2setting	OFF	
ACL SW	ON	
COLOR DET	EURO	
RS-232C Setting Item		
VIDEO MUTE	OFF	Common to all units
LED	ON	
100% display	OFF	

A

B

C

D

E

F

① MASK1

	1	5	10	15	20	25	30	35	40																																									
1		I N I T - M A S K 1										# 1 - U 2 - I N 4 - 0 2 - 2 * N T																																						
5																																																		
10																																																		
15		M A S K										: O F F (6 0 H z)																																						
16																																																		

Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

● Basic Operation

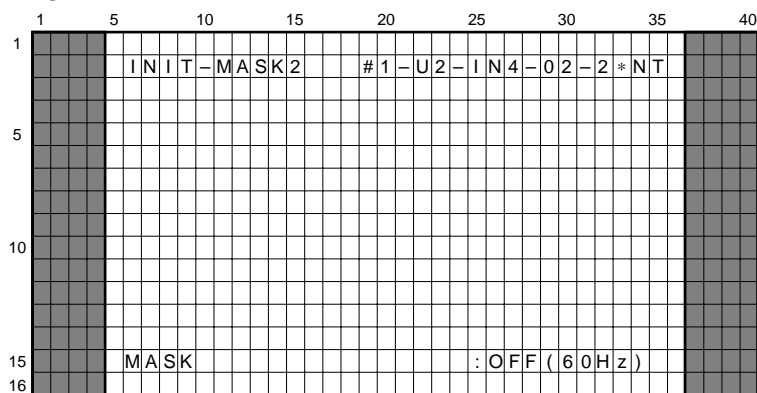
Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	MASK OFF		OFF	×
AA02	2	MASK51		White	×
AA03	3	MASK52		Cyan 274	×
AA04	4	MASK53		Mazenta 1023	×
AA05	5	MASK54		Flesh color	×
AA06	6	MASK55		Cyan 1023	×
AA07	7	MASK56		Light purple	×
AA08	8	MASK57		Sky blue	×
AA09	9	MASK58		Red	×
AA00	10	MASK59		Green	×
AA46	11	MASK60		Blue	×
AA47	12	MASK61		Black	×
AA4D	BS1	MASK62		Red 779	×
AA4E	BS3	MASK63		Reservation	×
AA4F	BS5	MASK64		Reservation	×
AA50	BS7	MASK65		Reservation	×
AA51	BS9	MASK66		Reservation	×
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Selection of free-running frequency	••→50Hz→60Hz→70Hz→••	Default: 60 Hz	
AA95	«	Selection of free-running frequency	••→50Hz→60Hz→70Hz→••	Default: 60 Hz	
AA8A	SET	Storing data of the selected item and shifting to upper layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM	Shifting to next adjustment / setting screen			
AAD3-AF22	P.ZOOM				
AA49	MUTING		INFORMATION		

● Operating specifications

- When this mode is entered, the MASK OFF display (the function called by pressing the "1" key) is displayed first. However, if any MASK setting has been already made, the selected MASK item is displayed first.
 - If this mode is entered with any of the MASK items in MASK 2 selected, the settings for MASK 2 become invalid, and the MASK OFF display (the function called by pressing the "1" key) is displayed first.
 - When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.
- Note:** During MASK setting, an OSD is not displayed. If another operation is selected, an OSD is displayed for 2 seconds after the MASK signal output is stopped, then the selected FULL MASK display will be displayed again.

② MASK2



Display color : White

Half tone : Blue (second line / 15th line for each 5 to 36th columns)

●Basic Operation

Perform the adjustment of each parameter.

Rem Code	Key Name	Function & Display	Description	Remarks	Lower Layer
AA01	1	MASK OFF		OFF	×
AA02	2	MASK 01		Pattern 1 (Ramp)	×
AA03	3	MASK 02		Pattern 2 (Color-bars)	×
AA04	4	MASK 03		Pattern 3 (Slanting lines)	×
AA05	5	MASK 04		Pattern 4 (For W/B Lo-Light adjustment 1/5Window (14%, 56%))	×
AA06	6	MASK 05		Pattern 5 (For W/B Lo-Light adjustment 1/5Window (Pred, Skin))	×
AA07	7	MASK 06		Pattern 6 (For W/B Peak adjustment 1/5Window (100%))	×
AA08	8	MASK 07		Pattern 7 (Peak signal : For peak measurement and adjustment 1/5Window (100%))	×
AA09	9	MASK 08		Pattern 8 (Reservation)	×
AA00	10	MASK 09		Pattern 9 (Window-A for scan IC protection test)	×
AA46	11	MASK 10		Pattern 10 (Window-B for scan IC protection test)	×
AA47	12	MASK 11		Pattern 11 (Reservation)	×
AA4D	BS1	MASK 12		Pattern 12 (Reservation)	×
AA4E	BS3	MASK 13		Pattern 13 (Reservation)	×
AA4F	BS5	MASK 14		Pattern 14 (Reservation)	×
AA50	BS7				
AA51	BS9				
AA52	BS11				
AA53	BS13				
AA54	BS15				
AA96	▲	Selection of upper items			
AA97	▼	Selection of lower items			
AA94	»	Selection of free-running frequency	••→50Hz→60Hz→70Hz→••	Default: 60 Hz	
AA95	«	Selection of free-running frequency	••→50Hz→60Hz→70Hz→••	Default: 60 Hz	
AA8A	SET	Storing data of the selected item and shifting to upper layer			
AAD3-AF70	AUDIO	Shifting to various adjustment / setting screen	INFORMATION		
AA4A	DISPLAY CALL		RANGE CHECK		
AA1D	SURROUND MODE		REFERENCE		
AA59	AV SELECT		OFFSET		
AA43	AV MEMORY		VIDEO OPTION		
AA1E	MPX		INITIALIZE		
AAD3-AF3C	SCREEN SIZE				
AAD3-AF36	FULL AUTO ZOOM				
AAD3-AF22	P.ZOOM				
AA49	MUTING	Shifting to next adjustment / setting screen	INFORMATION		

●Operating specifications

- When this mode is entered, the MASK OFF display (the function called by pressing the "1" key) is displayed first. However, if any MASK setting has been already made, the selected MASK item is displayed first.
- If this mode is entered with any of the MASK items in MASK 1 selected, the settings for MASK 1 become invalid, and the MASK OFF display (the function called by pressing the "1" key) is displayed first.
- When any of the above keys is pressed, the current adjustment value is stored in memory, then the corresponding operation will be executed.

Note: During MASK setting, an OSD is not displayed. If another operation is selected, an OSD is displayed for 2 seconds after the MASK signal output is stopped, then the selected MASK display will be displayed again.

● Cassification 1 of Input Signal Mode (VIDEO)

SIG Mode	Signal Type	OSD display	V. Frequency fv (Hz)	H. Frequency fh (Hz)	Number of Pixels	INPUT5 (HDMI input) Compatibility
00•5 00•6 00•7 00•8 00•9	SDTV • 625i (PAL/SECAM)	(100% tentative) 4 : 3 FULL ZOOM WIDE	50	15.6	1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768	× (incompatible)
01•5 01•6 01•7 01•8 01•9	SDTV • 625p (PAL • Progressive)	(100% tentative) 4 : 3 FULL ZOOM WIDE	50	31.2	1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768	× (incompatible)
02•5 02•6 02•7 02•8 02•9	SDTV • 525i (NTSC/4.43NTSC)	(100% tentative) 4 : 3 FULL ZOOM WIDE	60	15.7	1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768	× (incompatible)
03•5 03•6 03•7 03•8 03•9	SDTV • 525p (NTSC • Progressive)	(100% tentative) 4 : 3 FULL ZOOM WIDE	60	31.5	1280 × 768 984 × 768 1280 × 768 1280 × 768 1280 × 768	○ (compatible)
11•5 11•7	HDTV • 1125i (Effective scanning lines: 1080)	(100%) FULL	50	28.1	1280 × 768 1280 × 768	× (incompatible)
12•5 12•7	HDTV • 1125i (Effective scanning lines: 1080)	(100%) FULL	60	33.8	1280 × 768 1280 × 768	○ (compatible)
13•5 13•7	HDTV • 1125i (Effective scanning lines: 1035)	(100%) FULL	60	33.8	1280 × 768 1280 × 768	○ (compatible)
14•5 14•7	HDTV • 750p (Effective scanning lines: 720)	(100%) FULL	60	45.0	1280 × 768 1280 × 768	○ (compatible)
15•5 15•7	HDTV • 1125p (Effective scanning lines: 1080)	(100%) FULL	60	67.5	1280 × 768 1280 × 768	× (incompatible)

● Classification 2 of Input Signal Mode (PC)

SIG Mode	Signal Type	OSD Display	V. Frequency v (Hz)	H. Frequency h (Hz)	Number of Pixels
20 • 2	640 × 400	FULL	56	24.8	1280 × 768
23 • 2	640 × 400	FULL	70	31.5	1280 × 768
31 • 0 31 • 1 31 • 2	640 × 480	DOT BY DOT 4 : 3 FULL	60	31.5	640 × 480 1024 × 768 1280 × 768
32 • 0 32 • 1 32 • 2	640 × 480	DOT BY DOT 4 : 3 FULL	66	35.0	640 × 480 1024 × 768 1280 × 768
34 • 0 34 • 1 34 • 2	640 × 480	DOT BY DOT 4 : 3 FULL	72	37.9	640 × 480 1024 × 768 1280 × 768
35 • 0 35 • 1 35 • 2	640 × 480	DOT BY DOT 4 : 3 FULL	75	37.5	640 × 480 1024 × 768 1280 × 768
36 • 0 36 • 1 36 • 2	640 × 480	DOT BY DOT 4 : 3 FULL	85	43.3	640 × 480 1024 × 768 1280 × 768
40 • 4 40 • 1 40 • 2	800 × 600	DOT BY DOT 4 : 3 FULL	56	35.1	800 × 600 1024 × 768 1280 × 768
41 • 0 41 • 1 41 • 2	800 × 600	DOT BY DOT 4 : 3 FULL	60	37.9	800 × 600 1024 × 768 1280 × 768
44 • 0 44 • 1 44 • 2	800 × 600	DOT BY DOT 4 : 3 FULL	72	48.1	800 × 600 1024 × 768 1280 × 768
45 • 0 45 • 1 45 • 2	800 × 600	DOT BY DOT 4 : 3 FULL	75	46.9	800 × 600 1024 × 768 1280 × 768
46 • 0 46 • 1 46 • 2	800 × 600	DOT BY DOT 4 : 3 FULL	85	53.7	800 × 600 1024 × 768 1280 × 768
55 • 0 55 • 1 55 • 2	832 × 624	DOT BY DOT 4 : 3 FULL	75	49.7	832 × 624 1024 × 768 1280 × 768
61 • 1 61 • 2	1024 × 768	DOT BY DOT FULL	60	48.4	1024 × 768 1280 × 768
63 • 1 63 • 2	1024 × 768	DOT BY DOT FULL	70	56.5	1024 × 768 1280 × 768
65 • 1 65 • 2	1024 × 768	DOT BY DOT FULL	75	60.0	1024 × 768 1280 × 768
66 • 1 66 • 2	1024 × 768	DOT BY DOT FULL	85	68.7	1024 × 768 1280 × 768
70 • 2	1280 × 768	DOT BY DOT	56	45.1	1024 × 768
71 • 2	1280 × 768	DOT BY DOT	60	48.1	1024 × 768
73 • 2	1280 × 768	DOT BY DOT	70	55.5	1024 × 768
E1 • 1 E1 • 2	852 × 480	DOT BY DOT FULL	60	31.7	852 × 480 1280 × 768

7.2 ADJUSTMENT REQUIRED WHEN THE SET IS REPAIRED OR REPLACED

■ RGB Assy

● When repaired

1. Adjustment is impossible when the Matrix IC or AD/PLL/AMP IC is replaced.
2. Adjustment is unnecessary in other cases.

● When replaced

White balance adjustment

■ SW POWER SUPPLY Module

● When replaced

No adjustment required.

■ DIGITAL VIDEO Assy

● When repaired

No adjustment required.

● When replaced

1. Adjustment is unnecessary when only the DIGITAL VIDEO Assy is replaced.
2. When the RGB Assy is replaced at the same time as this assembly, remove the IC1204 (24LC04(1)SN-TBB) from the old PC board of the DIGITAL VIDEO Assy and attach it to the new PC board.
3. If you are reusing the collected old PC board as a service part, attach the new IC1204 to the board.

■ Y DRIVE Assy

● When replaced

1. Panel white balance adjustment

■ X DRIVE Assy

● When replaced

1. Panel white balance adjustment

■ VIDEO SLOT US2 ASSY

● When repaired

1. Y LEVEL adjustment
2. Color difference and TINT adjustment

● When replaced

No adjustment required.

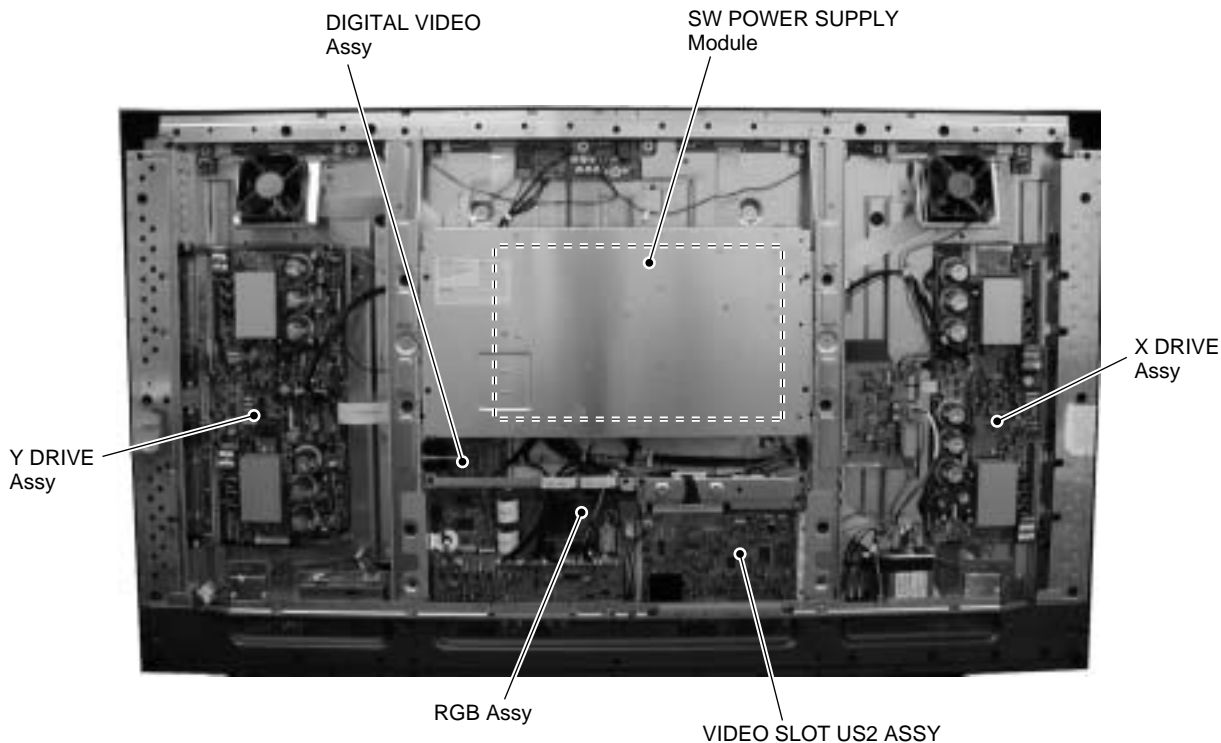
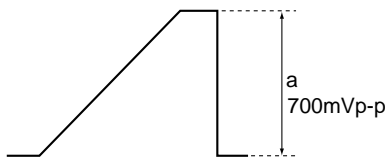
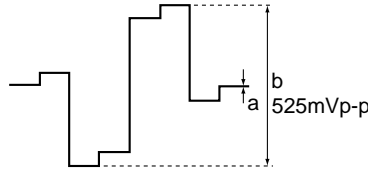
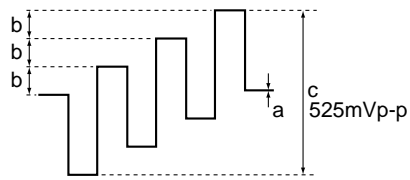
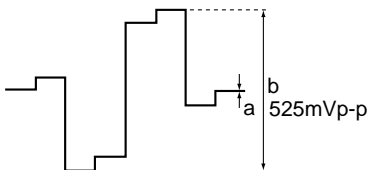
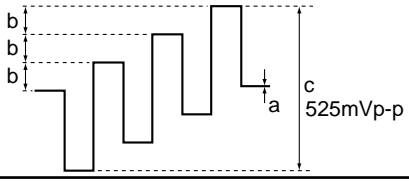


Fig. 1 Configuration of the PC Board (rear side view)

7.3 ADJUSTMENT

7.3.1 VIDEO SLOT US2 ADJUSTMENT

- Adjust after controlling each IC.

Step	Adjustment Item	Input Signal	Control	Measuring Point	Adjusting Value	Adjusting Method
1	Y Level Adjustment (IC7202)	RAMP	IC7202 (SA8E)	CN7502-pin 3	700mVp-p	Adjust the level so that the waveform becomes 700 mVp-p. 
2	R-Y Offset Adjustment (IC7202)	Color-Bar	IC7202 (SA8E)	CN7502-pin 7	525mVp-p	Adjust the offset so that the pedestal level becomes constant. 
3	B-Y Offset Adjustment (IC7202)	Color-Bar	IC7202 (SA8E)	CN7502-pin 5	525mVp-p	a: Adjust the offset so that the pedestal level becomes constant. b: Adjust the TINT so that the height ratio of each staircase waveform becomes constant. 
4	TINT Adjustment (IC7202)					
5	R-Y Level Adjustment (IC7201)	Color-Bar	IC7501 (SA40)	CN7502-pin 7	525mVp-p	Adjust the level so that the waveform becomes 525 mVp-p. 
6	B-Y Level Adjustment (IC7201)	Color-Bar	IC7501 (SA40)	CN7502-pin 5	525mVp-p	Adjust the Level so that the waveform becomes 525 mVp-p. 

Each adjustment value is stored in IC7502.

7.3.2 MAIN UNIT ADJUSTMENT

■ Panel-White-Balance Adjustment

Input Signal	Adjusting Point	Adjusting Method									
		<p>Adjust the OFFSET-DIGITAL parameters (from PANEL R-HIGH to PANEL B-LOW) in Factory mode.</p> <p>For adjustment, use the mask (MASK04) signal of Factory mode for display.</p> <p>Reference : Adjustment values when using the Minolta color-difference meter (A-100)</p> <table> <tr> <th></th><th>MASK Left Side</th><th>MASK Right Side</th></tr> <tr> <td>x</td><td>295</td><td>291</td></tr> <tr> <td>y</td><td>306</td><td>300</td></tr> </table>		MASK Left Side	MASK Right Side	x	295	291	y	306	300
	MASK Left Side	MASK Right Side									
x	295	291									
y	306	300									

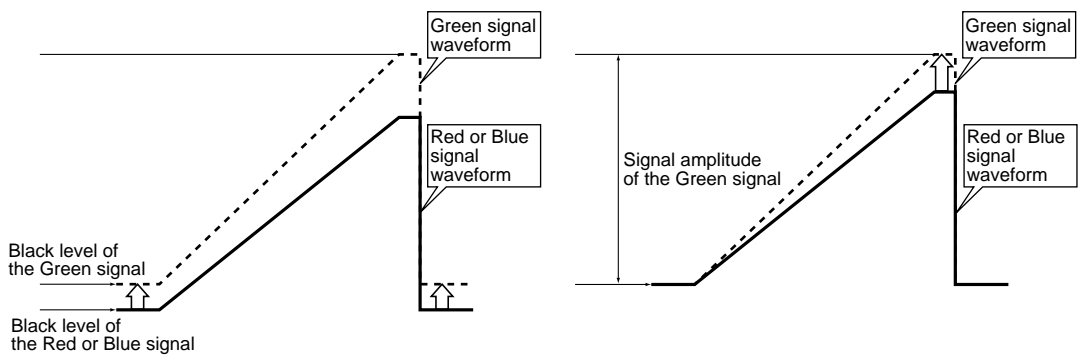
■ Mask-Level Adjustment

Input Signal	Adjusting Point	Adjusting Method
	<p>VIDEO OPTION mode in Factory mode</p> <p>SIDE MASK LEV.</p> <p>R SIDE LEVEL : key 1</p> <p>G SIDE LEVEL : key 2</p> <p>B SIDE LEVEL : key 3</p>	<p>Side mask color / Level Adjustment</p> <p>Set the indicated value with the keys on the remote control unit (1, 2 and 3 keys).</p>

■ White-Balance Adjustment

- A Video Slot US2 is necessary for white balance adjustment for video signal of the RGB Assy.
- Adjust with video system signal (525i) and RGB (PC VGA) signal.
- Adjust so that the level and amplitude of the RED and BLUE signals become the same, referring to the GREEN signal.

Input Signal	Step	Adjusting Method
Video signal	1	Connect a Video Card to the RGB Assy through a jig cable to measure the RGB Assy. The signal level cannot be measured without a jig cable. Note: Be careful of the direction of the jig cable connector when connecting.
	2	Input a 525i component signal to INPUT 1 and INPUT 2. Use a signal consisting of the luminance signal only, such as a ramp signal or STEP signal, whose black level (0IRE) and gradation can be checked. Note: You can use a Y (luminance) signal of the standard NTSC component video signal.
	3	In the signal input function (INPUT1 or INPUT2), set the display mode of the VIDEO signal to COMPONENT. MENU → SETUP → VIDEO SIGNAL : COMPONENT
	4	Set the unit to Standby mode then to Factory mode. MENU → SET → POWER ON
	5	Turn the ACL SW setting to OFF. INITIALIZE mode ACL SW : "3" key Select OFF with the right and left keys.
	6	Decrease the MAT CONT adjustment value of OFFSET-RGB1 by 3. OFFSET mode: Select RGB 1 mode with the top and bottom keys. MAT CONT : "1" key Decrease the adjustment value by 3 with the right and left keys.
	7	Decrease the MAT BRIGHT adjustment value of OFFSET-RGB1 by 2. OFFSET mode: Select RGB 1 mode with the top and bottom keys. MAT BRIGHT : "2" key Decrease the adjustment value by 2 with the right and left keys.
	8	Take a trigger of the oscilloscope with HD_PLL (3.3Vp-p) of K4805.
	9	Measure the signal waveform of the Green signal at K4603, and measure the black level (0IRE) and amplitude.
	10	AD R LOW adjustment Measure the black level (0IRE) of the Red signal at K4602, and adjust the level of AD R LOW so that its black level (0IRE) becomes the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD R LOW : "9" key Adjust with the right and left keys.
	11	AD R HIGH adjustment Measure the signal amplitude of the Red signal at K4602, and adjust the level of AD R HIGH so that its signal amplitude becomes the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD R HIGH : "6" key Adjust with the right and left keys.
	12	AD B LOW adjustment Measure the black level (0IRE) of the Blue signal at K4604, and adjust the level of AD B LOW so that its black level (0IRE) becomes the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD B LOW : "11" key Adjust with the right and left keys.
	13	AD B HIGH adjustment Measure the signal amplitude of the Blue signal at K4604, and adjust the level of AD B HIGH so that its signal amplitude becomes the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD B HIGH : "8" key Adjust with the right and left keys.

Input Signal	Step	Adjusting Method
Video signal		<p>● Adjust the black level of the Red and Blue signals referring to that of the Green signal</p> <p>● Adjust the signal amplitude of the Red and Blue signals referring to that of the Green signal</p> 
	14	<p>Increase the MAT CONT adjustment value of OFFSET-RGB1 by 3. OFFSET mode: Select RGB 1 mode with the top and bottom keys. MAT CONT : "1" key Increase the adjustment value by 3 with the right and left keys.</p>
	15	<p>Increase the MAT BRIGHT adjustment value of OFFSET-RGB1 by 2. OFFSET mode: Select RGB 1 mode with the top and bottom keys. MAT BRIGHT : "2" key Increase the adjustment value by 2 with the right and left keys.</p>
	16	<p>Turn the ACL SW setting to ON. INITIALIZE mode ACL SW : "3" key Select ON with the right and left keys.</p>
RGB (PC) signal	1	<p>Input a RGB (PC) signal to the INPUT1 or INPUT2. Use a signal consisting of the luminance signal only, such as a ramp signal or STEP signal, whose black level (0IRE) and gradation can be checked. • Recommended signal: VESA VGA@60Hz</p>
	2	<p>Set the unit to Standby mode then to Factory mode. MENU → SET → POWER ON</p>
	3	<p>Take a trigger of the oscilloscope with HD_PLL (3.3Vp-p) of K4805.</p>
	4	<p>Measure the signal waveform of the Green signal at K4603, and measure the black level (0IRE) and amplitude.</p>
	5	<p>AD R LOW adjustment Measure the black level (0IRE) of the Red signal at K4602, and adjust the level of AD R LOW so that its black level (0IRE) becomes the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD R LOW : "9" key Adjust with the right and left keys.</p>
	6	<p>AD R HIGH adjustment Measure the signal amplitude of the Red signal at K4602, and adjust the level of AD R HIGH so that its signal amplitude becomes the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD R HIGH : "6" key Adjust with the right and left keys.</p>

Input Signal	Step	Adjusting Method
RGB (PC) signal	7	AD B LOW adjustment Measure the black level (0IRE) of the Blue signal at K4604, and adjust the level of AD B LOW so that its black level (0IRE) become the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD B LOW : "11" key Adjust with the right and left keys.
	8	AD B HIGH adjustment Measure the signal amplitude of the Blue signal at K4604, and adjust the level of AD B HIGH so that its signal amplitude become the same as that of the Green signal measured in step 9. Tolerance: $\pm 0.05V$ OFFSET mode: Select RGB 1 mode with the top and bottom keys. AD R LOW : "8" key Adjust with the right and left keys.
		<div> <p>● Adjust the black level of the Red and Blue signals referring to that of the Green signal</p> </div> <div> <p>● Adjust the signal amplitude of the Red and Blue signals referring to that of the Green signal</p> </div>

Color-Balance Adjustment

Input Signal	Adjusting Point	Adjusting Method																																											
Flesh color	REFERENCE1 mode in Factory mode COLOR : "3" key TINT : "4" key	Color-Balance Adjustment After adjusting the white balance, check the flesh color of figures in LD still pictures. If the color is not natural, adjust it with the keys on the remote control unit.																																											
		Reference: Adjustment values when using the Minolta color-difference meter <table><tr><td></td><td></td><td></td><td>NTSC</td><td>HD</td><td>PC</td></tr><tr><td rowspan="6">White Balance</td><td rowspan="3">20% window-step signal (-3dB)</td><td>x</td><td>298</td><td>299</td><td>302</td></tr><tr><td>y</td><td>307</td><td>315</td><td>308</td></tr><tr><td>Y</td><td>6.6</td><td>5.7</td><td>2.9</td></tr><tr><td rowspan="3">80% window-step signal (-3dB)</td><td>x</td><td>293</td><td>292</td><td>297</td></tr><tr><td>y</td><td>309</td><td>312</td><td>319</td></tr><tr><td>Y</td><td>135</td><td>148</td><td>66.2</td></tr><tr><td rowspan="2">Flesh Color</td><td rowspan="2">Window chroma signal</td><td>x</td><td>430</td><td>427</td><td>—</td></tr><tr><td>y</td><td>365</td><td>362</td><td>—</td></tr></table>				NTSC	HD	PC	White Balance	20% window-step signal (-3dB)	x	298	299	302	y	307	315	308	Y	6.6	5.7	2.9	80% window-step signal (-3dB)	x	293	292	297	y	309	312	319	Y	135	148	66.2	Flesh Color	Window chroma signal	x	430	427	—	y	365	362	—
			NTSC	HD	PC																																								
White Balance	20% window-step signal (-3dB)	x	298	299	302																																								
		y	307	315	308																																								
		Y	6.6	5.7	2.9																																								
	80% window-step signal (-3dB)	x	293	292	297																																								
		y	309	312	319																																								
		Y	135	148	66.2																																								
Flesh Color	Window chroma signal	x	430	427	—																																								
		y	365	362	—																																								

A

B

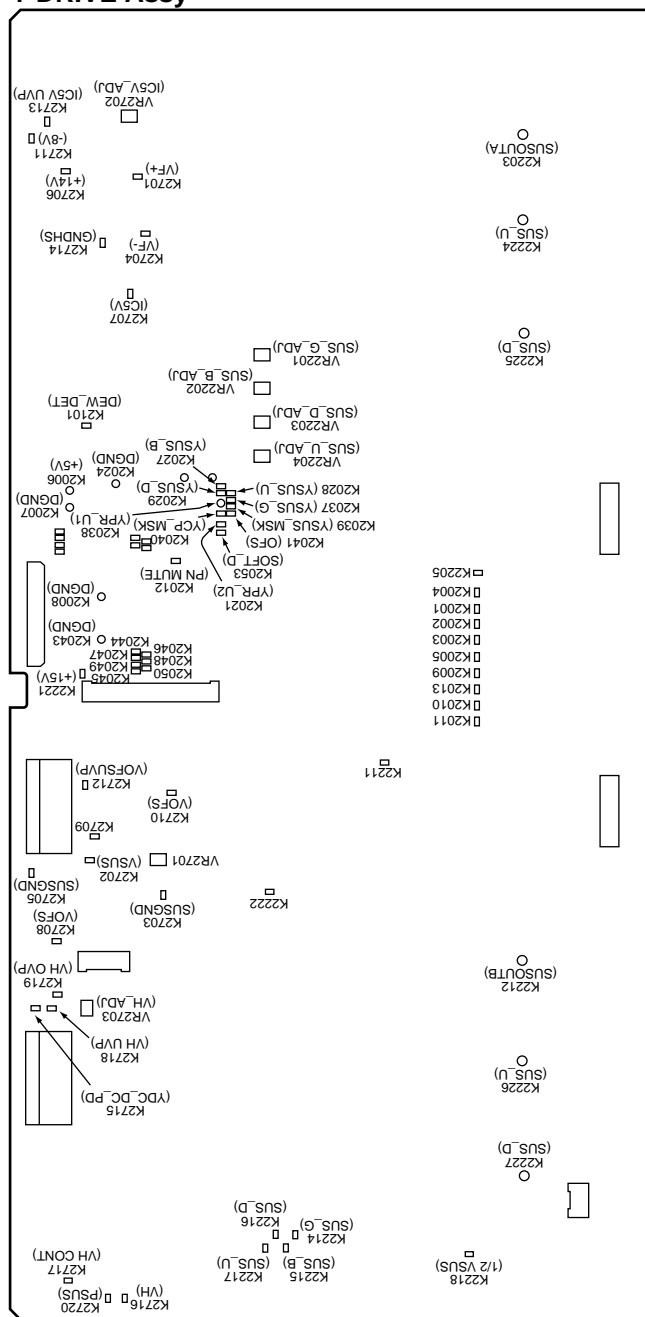
C

D

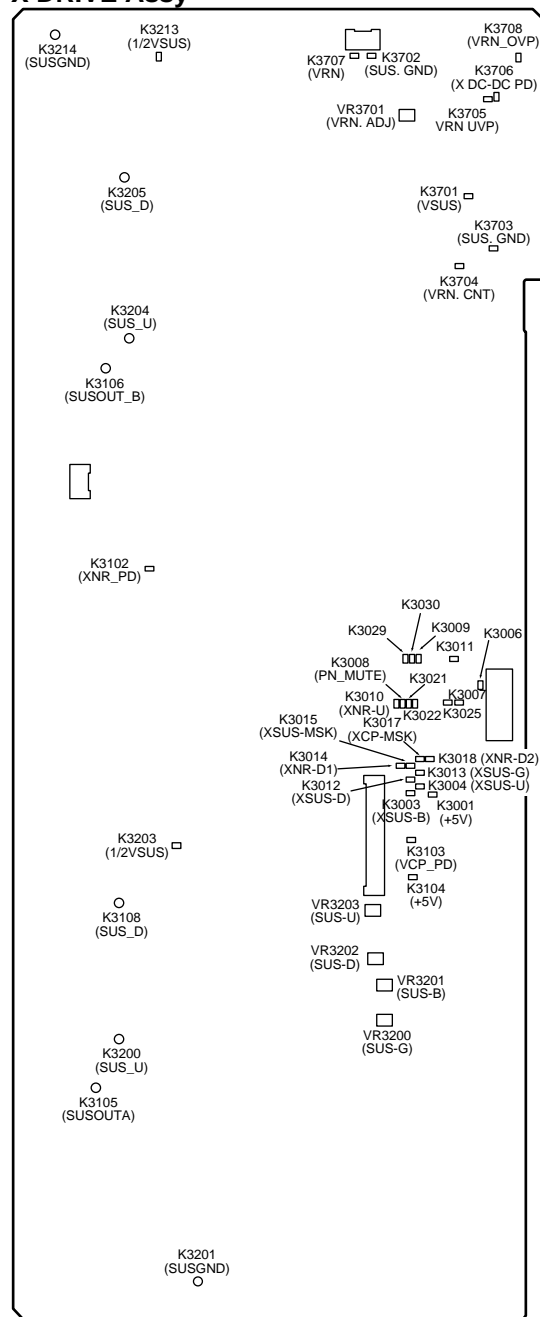
E

F

Y DRIVE Assy



X DRIVE Assy



Adjusting Points

7.4 COMMAND

7.4.1 RS-232C COMMANDS (for adjustment)

	Command	Name	Function	RS-232C Factory	RS-232C Integrator	Normal Validity	Direct Validity	UP/DOWN Validity
A	ABL	ABL	ABL level adjustment	0	—	—	0	0
B	BRT	BRIGHT	Brightness adjustment	0	0	—	0	0
	BHI	B HIGH	B HIGH adjustment	0	0	—	0	0
	BLW	B LOW	B LOW adjustment	0	0	—	0	0
	BSL	B SIDE MASK LEVEL	B SIDE MASK LEVEL adjustment	0	0	—	0	0
	BHA	AD B HIGH	AD B HIGH adjustment	0	—	—	0	0
	BLA	AD B LOW	AD B LOW adjustment	0	—	—	0	0
C	CNT	CONTRAST	Contrast adjustment	0	0	—	0	0
	COL	COLOR	Color adjustment	0	0	—	0	0
	CDR	CDR OFFSET	CDR OFFSET adjustment	0	—	—	0	0
	CDB	CDB OFFSET	CDB OFFSET adjustment	0	—	—	0	0
	CTI	CD TINT	Chroma decode TINT adjustment	0	—	—	0	0
	CPH	CLOCK PHASE	PLL phase adjustment	0	0	—	0	0
	CFR	CLOCK FREQUENCY	PLL frequency adjustment	0	0	—	0	0
D	DW0	DOWN 10	To decrease the adjustment value by 10	0	0	0	—	—
	DWn	DOWN n	To decrease the adjustment value by n (n = 1, 2, ..., 8, 9)	0	0	0	—	—
	DWF	DOWN FULL	To decrease the adjustment value to the minimum	0	0	0	—	—
G	GHI	G HIGH	G HIGH adjustment	0	0	—	0	0
	GLW	G LOW	G LOW adjustment	0	0	—	0	0
	GSL	G SIDE MASK LEVEL	G SIDE MASK LEVEL adjustment	0	0	—	0	0
	GHA	AD G HIGH	AD G HIGH adjustment	0	—	—	0	0
	GLA	AD G LOW	AD G LOW adjustment	0	—	—	0	0
L	LRY	R-Y LEVEL	R-Y level adjustment	0	—	—	0	0
	LBV	B-Y LEVEL	B-Y level adjustment	0	—	—	0	0
M	MCT	MAT CONTRAST	MAT CONTRAST adjustment	0	—	—	0	0
	MBR	MAT BRIGHT	MAT BRIGHT adjustment	0	—	—	0	0
	MCL	MAT COLOR	MAT COLOR adjustment	0	—	—	0	0
	MTI	MAT TINT	MAT TINT adjustment	0	—	—	0	0
	MCA	AD MAIN CONTRAST	AD MAIN CONTRAST adjustment	0	—	—	0	0
P	PBH	PANEL BLUE HIGH	BLUE HIGH-LIGHT adjustment	0	—	—	0	0
	PBL	PANEL BLUE LOW	BLUE LOW-LIGHT adjustment	0	—	—	0	0
	PGH	PANEL GREEN HIGH	GREEN HIGH-LIGHT adjustment	0	—	—	0	0
	PGL	PANEL GREEN LOW	GREEN LOW-LIGHT adjustment	0	—	—	0	0
	PRH	PANEL RED HIGH	RED HIGH-LIGHT adjustment	0	—	—	0	0
	PRL	PANEL RED LOW	RED LOW-LIGHT adjustment	0	—	—	0	0
R	RHI	R HIGH	R HIGH adjustment	0	0	—	0	0
	RLW	R LOW	R LOW adjustment	0	0	—	0	0
	RSL	R SIDE MASK LEVEL	R SIDE MASK LEVEL adjustment	0	0	—	0	0
	RHA	AD R HIGH	AD R HIGH adjustment	0	—	—	0	0
	RLA	AD R LOW	AD R LOW adjustment	0	—	—	0	0
S	SV1	SUB VOLUME INPUT1	To adjust the sub-volume of INPUT1	0	0	—	0	0
	SV2	SUB VOLUME INPUT2	To adjust the sub-volume of INPUT2	0	0	—	0	0
	SV3	SUB VOLUME INPUT3	To adjust the sub-volume of INPUT3	0	0	—	0	0
	SV4	SUB VOLUME INPUT4	To adjust the sub-volume of INPUT4	0	0	—	0	0
	SV5	SUB VOLUME INPUT5	To adjust the sub-volume of INPUT5	0	0	—	0	0
	SHP	H.SHARP	H.SHARP/H.ENHANCE adjustment	0	0	—	0	0
	SHV	V.SHARP	V.SHARP/V.ENHANCE adjustment	0	0	—	0	0
T	TNT	TINT	TINT adjustment	0	0	—	0	0
U	UP0	UP10	To increase the adjustment value by 10	0	0	0	—	—
	UPn	UPn	To increase the adjustment value by n (n = 1, 2, ..., 8, 9)	0	0	0	—	—
	UPF	UP FULL	To increase the adjustment value to the maximum	0	0	0	—	—
V	VOF	VOFFSET ADJUST	Vofs adjustment	0	—	—	0	0
	VOL	VOLUME	Audio volume adjustment	0	0	0	0	0
	VSU	VSUS ADJUST	Vsus adjustment	0	—	—	0	0
	VPS	VERTICAL POSITION	Vertical position adjustment	0	0	—	0	0
	VSI	VERTICAL SIZE	Vertical size adjustment	0	0	—	0	0
X	XSB	XSUS B	X-SUS-B pulse adjustment	0	—	—	0	0
	XSG	XSUS G	X-SUS-G pulse adjustment	0	—	—	0	0
Y	YSB	YSUS B	Y-SUS-B pulse adjustment	0	—	—	0	0
	YSG	YSUS G	Y-SUS-G pulse adjustment	0	—	—	0	0
	YDL	Y-DELAY	Y-DELAY adjustment	0	—	—	0	0
	YOL	Y-OUT LEVEL	Y-OUT LEVEL adjustment	0	—	—	0	0

7.4.2 RS-232C COMMANDS (for setting)

	Command	Name	Function	RS-232C Factory	RS-232C Integrator	Normal Validity	Direct Validity	UP/DOWN Validity
A	AJN	ADJUST NO	To exit from the RS-232C Integrator mode	–	O	–	–	–
	AJY	ADJUST YES	To enter the RS-232C Integrator mode	–	–	O	–	–
	AMN	AUDIO MUTE NO	To turn the audio mute to OFF	O	O	O	–	–
	AMY	AUDIO MUTE YES	To turn the audio mute to ON	O	O	O	–	–
	AB0	ABL MODE0	To set the ABL setting to MODE0 (REFERENCE)	O	–	–	–	–
	AB1	ABL MODE1	To set the ABL setting to MODE1 (PC)	O	–	–	–	–
	AB2	ABL MODE2	To set the ABL setting to MODE2 (VIDEO60Hz)	O	–	–	–	–
B	AB3	ABL MODE3	To set the ABL setting to MODE3 (VIDEO50Hz)	O	–	–	–	–
	BBY	VIDEO RGB YES	To set the signal format to VIDEO RGB	O	O	–	–	–
	BR1	BAUD RATE1	To set the RS-232C baud rate to 1200BPS	O	O	–	–	–
	BR2	BAUD RATE2	To set the RS-232C baud rate to 2400BPS	O	O	–	–	–
	BR3	BAUD RATE3	To set the RS-232C baud rate to 4800BPS	O	O	–	–	–
	BR4	BAUD RATE4	To set the RS-232C baud rate to 9600BPS	O	O	–	–	–
	BR5	BAUD RATE5	To set the RS-232C baud rate to 19200BPS	O	O	–	–	–
C	BR6	BAUD RATE6	To set the RS-232C baud rate to 38400BPS	O	O	–	–	–
	CM1	COLOR MODE 1	To set to COLOR MODE 1	O	O	O	–	–
	CM2	COLOR MODE 2	To set to COLOR MODE 2	O	O	O	–	–
	CP1	VIDEO COMPONENT1 YES	To set the signal format to VIDEO COMPONENT1	O	O	–	–	–
	CP2	VIDEO COMPONENT2 YES	To set the signal format to VIDEO COMPONENT2	O	O	–	–	–
	CDE	COLOR DETECT EURO	To set the color detect to EURO	O	O	–	–	–
	CDM	COLOR DETECT ALL	To set the color detect to ALL	O	O	–	–	–
D	CDA	COLOR DETECT SA	To set the color detect to SA	O	O	–	–	–
	CT1	COLOR TEMP.1	To set the color temperature to -3000K or equivalent	O	O	–	–	–
	CT2	COLOR TEMP.2	To set the color temperature to -2000K or equivalent	O	O	–	–	–
	CT3	COLOR TEMP.3	To set the color temperature to ±0K or equivalent	O	O	–	–	–
	CT4	COLOR TEMP.4	To set the color temperature to +1000K or equivalent	O	O	–	–	–
	CT5	COLOR TEMP.5	To set the color temperature to +2000K or equivalent	O	O	–	–	–
	CL1	CLAMP MODE1	To set the clamp position to AUTO	O	O	–	–	–
E	CL2	CLAMP MODE2	To set the clamp position to fix	O	O	–	–	–
	DIN	OSD DISPLAY NO	To prohibit OSD display	O	O	O	–	–
	DIY	OSD DISPLAY YES	To permit OSD display	O	O	O	–	–
	DOF	DISPLAY OFF	To turn the OSD display to OFF	O	O	O	–	–
	DRN	DRIVE ON	To turn the drive to ON	It is valid in the RS-232C factory and STB			–	–
	DRF	DRIVE OFF	To turn the drive to OFF				–	–
	DSP	INPUT SIGNAL DISPLAY	To display current input signal information	O	O	–	–	–
F	DS2	DISPLAY2	To display current various information	O	O	–	–	–
	EWY	EEPROM WRITE YES	To enter Plug & Play EEPROM writing mode	O	–	–	–	–
	EWN	EEPROM WRITE NO	To exit from Plug & Play EEPROM writing mode	O	–	–	–	–
	FAN	FACTORY ADJUST NO	To exit from Factory adjustment mode	O	–	–	–	–
	FAY	FACTORY ADJUST YES	To enter Factory adjustment mode	–	–	O	–	–
	FST	FINAL SET UP	To reset various settings to the factory-preset values	O	–	–	–	–
	FRP	FRESH POSITION	To initialize SCREEN value of integrator	O	O	–	–	–
G	FCA	FAN CONTROL AUTO	To set the fan roll control to AUTO	O	O	–	–	–
	FCM	FAN CONTROL MAX	To set the fan roll control to MAX	O	O	–	–	–
	FMY	FULL MASK YES	To set to FULL MASK (white)	–	O	–	–	–
	FMR	FULL MASK RED	To set to FULL MASK (red)	–	O	–	–	–
	FMG	FULL MASK GREN	To set to FULL MASK (green)	–	O	–	–	–
	FMB	FULL MASK BLUE	To set to FULL MASK (blue)	–	O	–	–	–
	FMN	FULL MASK NO	To release the FULL MASK	–	O	–	–	–
H	FXO	FIX OUTPUT	To fix the audio output	O	O	–	–	–
	F50	FREE RUN 50Hz	To set the free-running to 50Hz in the MASK setting	O	–	–	–	–
	F60	FREE RUN 60Hz	To set the free-running to 60Hz in the MASK setting	O	–	–	–	–
	F70	FREE RUN 70Hz	To set the free-running to 70Hz in the MASK setting	O	–	–	–	–
	GAJ	GET ADJUST	To obtain various adjustment values of the display from EEPROM	O	–	–	–	–
	GPW	GET PANEL W/B	To obtain the panel W/B information from EEPROM	O	–	–	–	–
	GS1	GET STATUS 1	To obtain the version information of microcomputer from	O	–	–	–	–
I	GS2	GET STATUS 2	To obtain the PD information and temperature information from EEPROM	O	–	–	–	–
	GPS	GET POSITION DATA	TxD outputs of the positioning data	O	O	O	–	–
	GSO	GET STATUS OPTION	TxD outputs of data on various OPTION settings	O	O	O	–	–
	GSS	GET STATUS SET UP	TxD outputs of data on various SETUP settings	O	O	O	–	–
	GAS	GET ADJUST SLOT	TxD outputs of data of picture quality setting of SLOT	O	–	–	–	–
	GAR	GET ADJUST RGB	TxD outputs of data of picture quality adjustment (RGB 1)	O	–	–	–	–

	Command	Name	Function	RS-232C Factory	RS-232C Integrator	Normal Validity	Direct Validity	UP/DOWN Validity
G	GWB	GET WHITE BALANCE	TxD outputs of data of picture quality setting of RGB1	O	O	O	–	–
	GPD	GET POWER DOWN	TxD outputs of POWER DOWN information	O	–	–	–	–
H	HCN	HIGH CONTRAST NO	To turn the high contrast setting to OFF	O	O	–	–	–
	HCY	HIGH CONTRAST YES	To turn the high contrast setting to ON	O	O	–	–	–
	HMS	HOURLY METER SET	To set the hour meter to optional time	O	–	–	O	–
	HMD	HOURLY METER DISP.	To display the hour meter	O	O	–	–	–
	H80	HDTV MODE 1080 i	To set the HDTV mode to 1080 i	O	O	–	–	–
	H35	HDTV MODE 1035 i	To set the HDTV mode to 1035 i	O	O	–	–	–
I	IN1	INPUT1	To select INPUT1	O	O	O	–	–
	IN2	INPUT2	To select INPUT2	O	O	O	–	–
	IN3	INPUT3	To select INPUT3	O	O	O	–	–
	IN4	INPUT4	To select INPUT4	O	O	O	–	–
	IN5	INPUT5	To select INPUT5	O	O	O	–	–
	IMN	INTEGRATOR MODE NO	To set the Integrator mode to LOCK	O	–	–	–	–
	IMY	INTEGRATOR MODE YES	To set the Integrator mode to UNLOCK	O	–	–	–	–
	IDC	ID CLEAR	To clear the ID	O	O	–	–	–
	IDS	ID SET	To set the ID	O	O	–	O	–
K	KLN	KEY LOCK NO	To permit main unit key / remote control unit operation	O	O	–	–	–
	KLY	KEY LOCK YES	To prohibit main unit key / remote control unit operation	O	O	–	–	–
M	M00	MASK 00	Mask mode OFF	O	–	–	–	–
	M01	MASK 01	Pattern 1 (ramp)	O	–	–	–	–
	M02	MASK 02	Pattern 2 (color bars)	O	–	–	–	–
	M03	MASK 03	Pattern 3 (slanting lines)	O	–	–	–	–
	M04	MASK 04	Pattern 4 (for W/B measurement)	O	–	–	–	–
	M05	MASK 05	Pattern 5 (for W/B adjustment)	O	–	–	–	–
	M06	MASK 06	Pattern 6 (for W/B peak measurement)	O	–	–	–	–
	M07	MASK 07	Pattern 7 (for peak measurement)	O	–	–	–	–
	M08	MASK 08	Pattern 8 (reservation)	O	–	–	–	–
	M09	MASK 09	Pattern 9 (for SCAN IC protection test)	O	–	–	–	–
	M10	MASK 10	Pattern 10 (for SCAN IC protection test)	O	–	–	–	–
	M11	MASK 11	Pattern 11 (reservation)	O	–	–	–	–
	M12	MASK 12	Pattern 12 (reservation)	O	–	–	–	–
	M13	MASK 13	Pattern 13 (reservation)	O	–	–	–	–
	M14	MASK 14	Pattern 14 (reservation)	O	–	–	–	–
	M51	MASK 51	Full mask (white)	O	–	–	–	–
	M52	MASK 52	Full mask (cyan 274)	O	–	–	–	–
	M53	MASK 53	Full mask (magenta 135)	O	–	–	–	–
	M54	MASK 54	Full mask (flesh color)	O	–	–	–	–
	M55	MASK 55	Full mask (cyan 1023)	O	–	–	–	–
	M56	MASK 56	Full mask (light purple 5)	O	–	–	–	–
	M57	MASK 57	Full mask (sky blue)	O	–	–	–	–
	M58	MASK 58	Full mask (red)	O	–	–	–	–
	M59	MASK 59	Full mask (green)	O	–	–	–	–
	M60	MASK 60	Full mask (blue)	O	–	–	–	–
	M61	MASK 61	Full mask (black)	O	–	–	–	–
	M62	MASK 62	Full mask (reservation)	O	–	–	–	–
	M63	MASK 63	Full mask (reservation)	O	–	–	–	–
	M64	MASK 64	Full mask (reservation)	O	–	–	–	–
	M65	MASK 65	Full mask (reservation)	O	–	–	–	–
	M66	MASK 66	Full mask (reservation)	O	–	–	–	–
	MG1	2X2MODE LEFT UPPER	Four enlarged setting: Upper left	O	O	–	–	–
	MG2	2X2MODE LEFT LOWER	Four enlarged setting: Lower left	O	O	–	–	–
	MG3	2X2MODE RIGHT UPPER	Four enlarged setting: Upper right	O	O	–	–	–
	MG4	2X2MODE RIGHT LOWER	Four enlarged setting: Lower right	O	O	–	–	–
	MGY	2X2MODE YES	To turn the four sides multi to ON	O	O	O	–	–
	MGN	2X2MODE NO	To turn the four sides multi to OFF	O	O	O	–	–
	MMN	MIRROR MODE NO	To turn the mirror mode to OFF (normal display)	O	O	O	–	–
	MMX	MIRROR MODE X	Right and left reversing display	O	O	O	–	–
	MMY	MIRROR MODE Y	Top and bottom reversing display	O	O	O	–	–
	MMZ	MIRROR MODE XY	Top/bottom and right/left reversing display	O	O	O	–	–
	MTN	VIDEO MUTE NO	To turn the video mute of IC30 to OFF	O	O	O	–	–
	MTY	VIDEO MUTE YES	To turn the video mute of IC30 to ON	O	O	O	–	–

A

	Command	Name	Function	RS-232C Factory	RS-232C Integrator	Normal Validity	Direct Validity	UP/DOWN Validity
M	MCY	MASK CONTROL YES	To permit automatic mask display position setting	O	O	–	–	–
	MCN	MASK CONTROL NO	To release automatic mask display position setting	O	O	–	–	–
N	NMY	NEGATIVE MODE YES	To turn the inverse mode (negative positive inverting) to ON	O	O	–	–	–
	NMN	NEGATIVE MODE NO	To turn the inverse mode (negative positive inverting) to OFF	O	O	–	–	–
	NTS	COLOR SYSTEM NTSC	To set the COLOR SYSTEM setting to NTSC	O	O	–	–	–
	NT4	COLOR SYSTEM 4.43NTSC	To set the COLOR SYSTEM setting to 4.43NTSC	O	O	–	–	–
	NRN	DIGITAL NR OFF	To set the DIGITAL NR setting to OFF	O	O	–	–	–
	NRL	DIGITAL NR LOW	To set the DIGITAL NR setting to LOW	O	O	–	–	–
	NRM	DIGITAL NR MIDDLE	To set the DIGITAL NR setting to MIDDLE	O	O	–	–	–
	NRH	DIGITAL NR HIGH	To set the DIGITAL NR setting to HIGH	O	O	–	–	–
O	OFY	OFFSET YES	To set the OFFSET adjustment mode to ON	O	–	–	–	–
	OCY	FIELD OFFSET CHANGE YES	To set the field AB offset to ON	O	–	–	–	–
	OCN	FIELD OFFSET CHANGE NO	To set the field AB offset to OFF	O	–	–	–	–
	OMY	ORBITER MODE YES	To set the orbiter mode to ON	O	O	–	–	–
	OMN	ORBITER MODE NO	To set the orbiter mode to OFF	O	O	–	–	–
P	PAF	ACL SW OFF	To set the ACL SW to OFF	O	–	–	–	–
	PAL	COLOR SYSTEM PAL	To set the COLOR SYSTEM setting to PAL	O	O	–	–	–
	PAN	ACL SW ON	To set the ACL SW to ON	O	–	–	–	–
	PCY	PC RGB YES	To set the INPUT setting to PC: RGB (VGA or XGA)	O	O	–	–	–
	PWY	PC WIDE YES	To set the INPUT setting to PC: RGB (WVGA or WXGA)	O	O	–	–	–
	PLN	BRIGHT ENHANCE OFF	To set the center brightness correction function to OFF	O	O	–	–	–
	PLY	BRIGHT ENHANCE ON	To set the center brightness correction function to ON	O	O	–	–	–
	PMS	PULSE METER SET	To set the pulse meter	O	–	–	O	–
	PMD	PULSE METER DISP	To display the pulse meter	O	–	–	–	–
	PMY	COLOR SYSTEM PAL-M	To set the COLOR SYSTEM setting to PAL-M	O	O	–	–	–
	PNY	COLOR SYSTEM PAL-N	To set the COLOR SYSTEM setting to PAL-N	O	O	–	–	–
	PON	POWER ON	Power ON	–	–	O	–	–
	POF	POWER OFF	Power OFF	O	O	O	–	–
	PT0	PANEL COLOR TEMP0	Panel color temperature 0 (REFERENCE value)	O	–	–	–	–
	PT1	PANEL COLOR TEMP1	Panel color temperature 1	O	–	–	–	–
	PT2	PANEL COLOR TEMP2	Panel color temperature 2	O	–	–	–	–
	PSN	AUTO POWER OFF OFF POWER MANAGEMENT	To set the AUTO POWER OFF / POWER MANAGEMENT setting to OFF	O	O	–	–	–
	PS1	AUTO POWER OFF ON	To set the AUTO POWER OFF setting to ON	O	O	–	–	–
	PS2	POWER MANAGEMENT ON	To set the POWER MANAGEMENT setting to ON	O	O	–	–	–
	PUN	PURECINEMA OFF	To set the PURECINEMA to OFF	O	O	–	–	–
	PUS	PURECINEMA STANDARD	To set the PURECINEMA to STANDARD	O	O	–	–	–
	PUH	PURECINEMA HQ	To set the PURECINEMA to HQ (HIGH QUALITY)	O	O	–	–	–
	PWN	POWER CONTROL STANDARD	To set the power control to OFF (STANDARD mode)	O	O	–	–	–
	PWL	CONTROL MODE1	To set the power control to MODE1 (Power-saving mode)	O	O	–	–	–
	PWS	POWER CONTROL MODE2	To set the power control to MODE2 (Longevity life mode)	O	O	–	–	–
	PDF	PICTURE DEFAULT	To execute PICTURE DEFAULT	O	–	–	–	–
	RFY	REFERENCE YES	To enter reference adjustment mode	O	–	–	–	–
S	SCM	COLOR SYSTEM SECAM	To set the COLOR SYSTEM setting to SECAM	O	O	–	–	–
	STD	STANDARD W/B	To reset the PIC and W/B of integrator to factory default values	–	O	–	–	–
	SM0	SCREEN MODE 0	To set the screen size to DOT BY DOT	O	O	O	–	–
	SM1	SCREEN MODE 1	To set the screen size to 4:3	O	O	O	–	–
	SM2	SCREEN MODE 2	To set the screen size to FULL	O	O	O	–	–
	SM3	SCREEN MODE 3	To set the screen size to ZOOM	O	O	O	–	–
	SM5	SCREEN MODE 5	To set the screen size to WIDE	O	O	O	–	–
	SLY	STILL YES	To set the STILL setting to ON	O	O	O	–	–
T	SLN	STILL NO	To set the STILL setting to OFF	O	O	O	–	–
	TVA	COLOR SYSTEM AUTO	To set the COLOR SYSTEM setting to AUTO	O	O	–	–	–
V	VFY	VIDEO FULL DISPLAY YES	To start 100% display	–	–	O	–	–
	VFN	VIDEO FULL DISPLAY NO	To finish 100% display	–	–	O	–	–
	VRO	VARIABLE OUTPUT	To set the audio output to variable	O	O	–	–	–
Y	YCM	3S Y/C MOTION	To set the 3D Y/C setting to MOTION	O	O	–	–	–
	YCS	3D Y/C STILL	To set the 3D Y/C setting to STILL	O	O	–	–	–

F

7.4.3 GET COMMAND

● Command Description

Command	Function
GAJ	Outputting data for electronic-control-adjustment values and drive-system-adjustment values
GPW	Outputting data related to the white-balance adjustment for the panel
GS1	Outputting data such as version information, and data from the hour meter and pulse meter
GS2	Outputting data for power down, temperature and condensation information
GAS	Outputting data related to the picture quality setting of SLOT
GAR	Outputting data related to the picture quality (RGB1 of the Factory menu)
GPD	Outputting data on PD information of Service Factory menu (past eight times)
GPS	Outputting data related to SCREEN adjustment data
GSD	Outputting TxD data on SD information of Service Factory menu
GWB	Outputting data related to picture quality / white balance
GSS	Outputting data on SETUP items of menu mode / Integrator menu
GSO	Outputting data on OPTION items of menu mode / Integrator menu

GAJ: Outputting data for electronic-control-adjustment values and drive-system-adjustment values

- Data are output according to the transmission order and size of the table below.
- This command is invalid in modes other than RS-232C Factory Adjustment mode.

Order	Data Contents	Size	Remarks
1	Setting mode of electric power upper limit value	3 byte	AB* (*: 0 to 3)
2	Electric power upper limit value (ABL)	(Reference data)	3 byte
3		(Offset data)	3 byte (Note 1)
4	Vsus adjustment value	(Reference data)	3 byte
5	Vofs adjustment value	(Reference data)	3 byte
6	V-SUS-B adjustment value	(Reference data)	3 byte
7	V-SUS-G adjustment value	(Reference data)	3 byte
8	Y-SUS-B adjustment value	(Reference data)	3 byte
9	Y-SUS-G adjustment value	(Reference data)	3 byte

(Note 1) : If data are output when the Reference mode is selected, the same data as the reference data are output as the offset data.

GPW (Get Panel White balance): Outputting data related to the white-balance adjustment for the panel

- Data are output according to the transmission order and size of the table below.
- This command is invalid in modes other than the RS-232C Factory Adjustment mode.

Order	Data Contents	Size	Remarks
1	Panel color temperature mode	3 byte	PT* (*: 0 to 3)
2	Gain of W/B adjustment value Red	(Reference data)	3 byte
3		(Offset data)	3 byte (Note 1)
4	Gain of W/B adjustment value Green	(Reference data)	3 byte
5		(Offset data)	3 byte (Note 1)
6	Gain of W/B adjustment value Blue	(Reference data)	3 byte
7		(Offset data)	3 byte (Note 1)
8	Offset of W/B adjustment value Red	(Reference data)	3 byte
9		(Offset data)	3 byte (Note 1)
10	Offset of W/B adjustment value Green	(Reference data)	3 byte
11		(Offset data)	3 byte (Note 1)
12	Offset of W/B adjustment value Blue	(Reference data)	3 byte
13		(Offset data)	3 byte (Note 1)

(Note 1) : If data are output when the Reference mode is selected, the same data as the reference data are output as the offset data.

GS1: Outputting data such as version information, and data from the hour meter and pulse meter

- Data are output according to the transmission order and size of the table below.
- This command is invalid in modes other than RS-232C Factory Adjustment mode.

Order	Data Contents	Size	Remarks
1	Display information	3 byte	See below
2	Module microcomputer model number	4 byte	5691 or F691
3	Module microcomputer version	3 byte	
4	Panel microcomputer version	3 byte	
5	Panel /FLASH ROM version	3 byte	
6	Hour meter (hour)	5 byte	Unit: H (hour)
7	Pulse meter	7 byte	Unit: 0.01G (10,000,000)
8	Main microcomputer model number	4 byte	PHDI
9	Main microcomputer version	3 byte	
10	Wide microcomputer version	3 byte	
11	Wide /FLASH ROM version	3 byte	

■ Display Information

Data	Model
MX5	PRO-1000HDI
MX4	PRO-800HDI

GS2: Outputting data for power down, temperature and condensation information

- Data are output according to the transmission order and size in the table below.
- This command is valid only in the following cases: in RS-232C Factory adjustment mode, during power-down or shutdown, and for 30 seconds until a shutdown occurs because of condensation formed inside the unit or audio failure.

Note: During power-down, when a failure occurs, or for 30 seconds until a shutdown occurs, data can be obtained by directly executing "GS2" without executing "FAY." However, the ID must be set beforehand.

Order	Data Contents	Size	Remarks
1	AC information	1 byte	Always 0 (not used)
2	Service parts distinction	1 byte	0: DIGITAL ASSY adjustment done 1: DIGITAL ASSY not adjusted (Service Assy)
3	Hour meter (hour, minute)	7 byte	*****H**M
4	Power-down information	2 byte	1st/2nd (*)
5	Temperature information	3 byte	8 bit
6	Condensation information	1 byte	1: Condensation
7	Panel microcomputer communication	1 byte	1: Communication failure
8	DIGITAL EEPROM communication	1 byte	1: Communication failure
9	DIGITAL EXPANDER communication	1 byte	1: Communication failure
10	Temperature information (TEMP2)	3 byte	8 bit
11	Temperature information (TEMP3)	3 byte	8 bit
12	Module microcomputer communication	1 byte	1: Communication failure
13	Wide microcomputer communication	1 byte	1: Communication failure
14	MAIN IIC	1 byte	1: Communication failure
15	MAIN EEPROM IIC	1 byte	1: Communication failure
16	AUDIO failure	1 byte	1: AUDIO failure
17	FAN failure	1 byte	1: FAN failure

(*) See the table below on contents of PD information.

Data	Power-Down Point
0	None
1	Y-DRIVE
2	Y-DC/DC CONVERTER
3	X-DC/DC CONVERTER
4	X-DRIVE
5	Power supply
6	ADDRESS junction
7	ADDRESS resonance
8	DC/DC CONVERTER (DIGITAL)

GAS (Get Adjust Slot): Outputting data related to the picture quality setting

- Data are output according to the transmission order and size in the table below.
- Data for the SLOT section of the Factory menu are output.
- This command is invalid when the current input function is one other than VIDEO input of the SLOT system.
- This command is invalid in modes other than RS-232C Factory Adjustment mode.

Order	Data Contents		Size	Remarks
1	Y-DELAY	(Reference data)	3 byte	
2		(Offset data)	3 byte	(Note 1)
3	Y-OUT LEVEL	(Reference data)	3 byte	
4		(Offset data)	3 byte	(Note 1)
5	CD TINT	(Reference data)	3 byte	
6		(Offset data)	3 byte	(Note 1)
7	CDR OFFSET	(Reference data)	3 byte	
8		(Offset data)	3 byte	(Note 1)
9	CDB OFFSET	(Reference data)	3 byte	
10		(Offset data)	3 byte	(Note 1)
11	R-Y LEVEL	(Reference data)	3 byte	
12		(Offset data)	3 byte	(Note 1)
13	B-Y LEVEL	(Reference data)	3 byte	
14		(Offset data)	3 byte	(Note 1)

(Note 1) : If data are output when Reference mode is selected, the same data as the reference data are output as the offset data.

GAR: Output data related to the picture quality (RGB1 of the Factory menu)

- Data are output according to the transmission order and size in the table below.
- This command is invalid in modes other than RS-232C Factory Adjustment mode.

Order	Data Contents		Size	Remarks
1	AD MAIN CONT	(Reference data)	3 byte	(Note 1)
2		(Offset data)	3 byte	(Note 1) (Note 2)
3	AD R HIGH	(Reference data)	3 byte	(Note 1)
4		(Offset data)	3 byte	(Note 1) (Note 2)
5	AD G HIGH	(Reference data)	3 byte	(Note 1)
6		(Offset data)	3 byte	(Note 1) (Note 2)
7	AD B HIGH	(Reference data)	3 byte	(Note 1)
8		(Offset data)	3 byte	(Note 1) (Note 2)
9	AD R LOW	(Reference data)	3 byte	(Note 1)
10		(Offset data)	3 byte	(Note 1) (Note 2)
11	AD G LOW	(Reference data)	3 byte	(Note 1)
12		(Offset data)	3 byte	(Note 1) (Note 2)
13	AD B LOW	(Reference data)	3 byte	(Note 1)
14		(Offset data)	3 byte	(Note 1) (Note 2)
15	MAT CONT	(Reference data)	3 byte	(Note 1)
16		(Offset data)	3 byte	(Note 1) (Note 2)
17	MAT BRIGHT	(Reference data)	3 byte	(Note 1)
18		(Offset data)	3 byte	(Note 1) (Note 2)
19	MAT COLOR	(Reference data)	3 byte	(Note 1)
20		(Offset data)	3 byte	(Note 1) (Note 2)
21	MAT TINT	(Reference data)	3 byte	(Note 1)
22		(Offset data)	3 byte	(Note 1) (Note 2)

(Note 1) As for the setting data not related to the current input function/input signal/setting, dummy data are output.

(Note 2) If data are output when the Reference mode is selected, the same data as the reference data are output as the offset data.

GPS: Output data related to SCREEN adjustment data

- Data are output according to the transmission order and size in the table below.
- All data are data of an Integrator area.
- This command is valid only in Normal Operation mode and RS-232C Integrator Adjustment mode.

Order	Data Contents	Size	Remarks
1	H.POSITION	3 byte	
2	V.POSITION	3 byte	
3	CLOCK	3 byte	(Note 1)
4	PHASE	3 byte	(Note 1)
5	V.SIZE	3 byte	

(Note 1) When the current input signal mode is VIDEO, dummy data(*) are output as adjustment data.

GPD (Get Power Down), PD (Power Down) : Outputting data on PD INFORMATION of the Service Factory MENU

- The acquired data are output according to the transmission order and size in the table below.
- This command is valid only in RS-232C Factory Adjustment mode and during power-down.

Note: During power-down, data can be obtained by directly executing "GPD" without executing "FAY." However, the ID must be set beforehand.

Order	Data Contents	Size	Remarks
1	The latest "1stPD INFO"	1 byte	(Note 1)
2	The latest "2ndPD INFO"	1 byte	(Note 1)
3	Hour meter information of the latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
4	Second latest "1st PD INFO"	1 byte	(Note 1)
5	Second latest "2nd PD INFO"	1 byte	(Note 1)
6	Hour meter information of the second latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
7	Third latest "1st PD INFO"	1 byte	(Note 1)
8	Third latest "2nd PD INFO"	1 byte	(Note 1)
9	Hour meter information of the third latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
10	Fourth latest "1st PD INFO"	1 byte	(Note 1)
11	Fourth latest "2nd PD INFO"	1 byte	(Note 1)
12	Hour meter information of the fourth latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
13	Fifth latest "1st PD INFO"	1 byte	(Note 1)
14	Fifth latest "2nd PD INFO"	1 byte	(Note 1)
15	Hour meter information of the fifth latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
16	Sixth latest "1st PD INFO"	1 byte	(Note 1)
17	Sixth latest "2nd PD INFO"	1 byte	(Note 1)
18	Hour meter information of the sixth latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
19	Seventh latest "1st PD INFO"	1 byte	(Note 1)
20	Seventh latest "2nd PD INFO"	1 byte	(Note 1)
21	Hour meter information of the seventh latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE
22	Eighth latest "1st PD INFO"	1 byte	(Note 1)
23	Eighth latest "2nd PD INFO"	1 byte	(Note 1)
24	Hour meter information of the eighth latest PD	7 byte	Upper 5byte: HOUR, Lower 2byte: MINUTE

(Note 1) See the table below on PD information

Data	Power Down Point
0	None
1	Y-DRIVE
2	Y-DC/DC CONVERTER
3	X-DC/DC CONVERTER
4	X-DRIVE
5	Power supply
6	ADDRESS junction
7	ADDRESS resonance
8	DC/DC CONVERTER (DIGITAL)

GSD (Get Shut Down) : Outputting TxD data on SD (Shut Down) INFORMATION of Service Factory MENU

- The acquired data are output according to the transmission order and size in the table below.
 - This command is valid only in RS-232C Factory Adjustment mode and during shut down (for 30 seconds until a shutdown occurs or standby).
- Note:** During power-down, data can be obtained by directly executing "GPD" without executing "FAY." However, the ID must be set beforehand.

Table 1: GSD

Order	Data Contents	Size	Remarks
1	The latest "SD INFO"	1 byte	(Note 1)
2	First latest "SD INFO"	1 byte	(Note 1)
3	Second latest "SD INFO"	1 byte	(Note 1)
4	Third latest "SD INFO"	1 byte	(Note 1)
5	Fourth latest "SD INFO"	1 byte	(Note 1)
6	Fifth latest "SD INFO"	1 byte	(Note 1)
7	Sixth latest "SD INFO"	1 byte	(Note 1)
8	Seventh latest "SD INFO"	1 byte	(Note 1)

(Note 1) See the table below on SD information

Table 2: SD contents

GET Data	Shut Down Point
1	Panel microcomputer communication failure
2	Module IIC communication failure
3	Condensation
4	Temperature abnormality
5	FAN abnormality
6	Module microcomputer communication failure
7	Wide microcomputer communication failure
8	Main IIC communication failure
9	AUDIO failure

GWB (Get White Balance): Outputting data related to picture quality / white balance

- Data are output according to the transmission order and size in the table below.
- This command is valid only in Normal Operation mode, RS-232C Integrator Adjustment mode, and RS-232C Factory adjustment mode.
- In Normal Operation mode and RS-232C Integrator Adjustment mode, data for the current signal and color mode of the current input function in the Integrator area are output.
- In RS-232C Factory Adjustment mode, RGB2 data for the Factory mode are output.

Order	Data Contents	Size	Remarks
1	CONTRAST	3 byte	
2		3 byte	(Note 2)
3	BRIGHT	3 byte	
4		3 byte	(Note 2)
5	COLOR	3 byte	(Note 1)
6		3 byte	(Note 2)
7	TINT	3 byte	(Note 1)
8		3 byte	(Note 2)
9	R HIGH	3 byte	
10		3 byte	(Note 2)
11	G HIGH	3 byte	
12		3 byte	(Note 2)
13	B HIGH	3 byte	
14		3 byte	(Note 2)
15	R LOW	3 byte	
16		3 byte	(Note 2)
17	G LOW	3 byte	
18		3 byte	(Note 2)
19	B LOW	3 byte	
20		3 byte	(Note 2)
21	H.ENHANCE (H.SHARP)	3 byte	
22	V.ENHANCE (V.SHARP)	3 byte	

(Note 1) As for the setting data not related to the current input function/input signal/setting, dummy data are output.

(Note 2) If data are output when the Reference mode is selected, the same data as the reference data are output as the offset data.

GSS: Outputting data on SETUP items of the menu mode / Integrator menu

- Data are output according to the transmission order and size in the table below.
- This command is valid only in Normal Operation mode, RS-232C Integrator Adjustment mode, and RS-232C Factory adjustment mode.

Order	Data Contents	Size	Output	Remarks
1	COLOR TEMP	1 byte	1: COLOR TEMP1 2: COLOR TEMP2 3: COLOR TEMP3 4: COLOR TEMP4 5: COLOR TEMP5	(Note 1)
2	DIGITAL NR	1 byte	0: OFF 1: LOW 2: MIDDLE 3: HIGH	(Note 1)
3	HIGH CONTRAST	1 byte	0: OFF, 1: ON	
4	PURECINEMA	3 byte	Same as the RS-232C command	(Note 1)
5	COLOR SYSTEM	3 byte	Same as the RS-232C command	(Note 1)
6	CLAMP	1 byte	1: AUTO 2: LOCKED	(Note 1)
7	3DY/C	1 byte	M: MOTION S: STILL	(Note 1)
8	SETTING/VIDEO SIGNAL	3 byte	Same as the RS-232C command	(Note 1)
9	2X2MODE	1 byte	0: OFF 1 to 4: MG1 to MG4 (See "MAGNIFY")	
10	BRIGHT ENHANCE	1 byte	0: OFF, 1: ON	
11	HDTV MODE	3 byte	Same as the RS-232C command	(Note 1)
12	VIDEO INPUT	1 byte	1: COMPONENT1 2: COMPONENT2	(Note 1)
13	Input function	3 byte	IN*	
14	Screen size	1 byte	0: DOT BY DOT 1: 4:3 (TYPE) 2: FULL (TYPE) 3: ZOOM 5: WIDE 6: 100% display	
15	SUB VOLUME (INPUT1)	2 byte	0 to 60	
16	SUB VOLUME (INPUT2)	2 byte	0 to 60	
17	SUB VOLUME (INPUT3)	2 byte	0 to 60	(Note 1)
18	SUB VOLUME (INPUT4)	2 byte	0 to 60	(Note 1)
19	SUB VOLUME (INPUT5)	2 byte	0 to 60	(Note 1)

(Note 1) As for the setting data not related to the current input function/input signal/setting, dummy data are output.

GSO: Outputting data on OPTION items of the menu mode / Integrator menu

- Data are output according to the transmission order and size in the table below.
- This command is valid only in Normal Operation mode, RS-232C Integrator Adjustment mode, and RS-232C Factory adjustment mode.

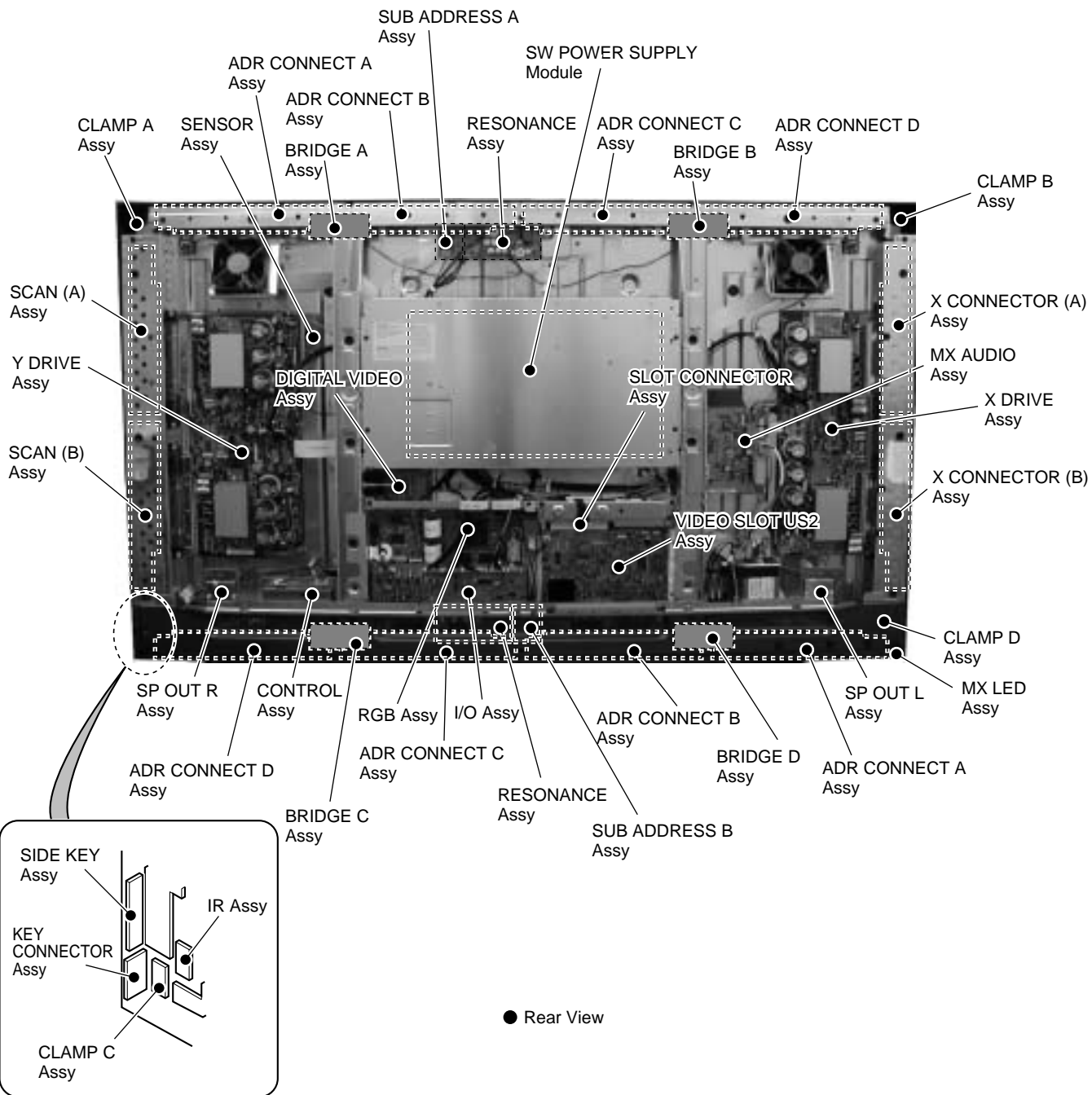
Order	Data Contents	Size	Output	Remarks
1	POWER CONTROL	3 byte	Same as the RS-232C command	
2	OSD display	1 byte	0: OSD display prohibition 1: OSD display permission	
3	FULL MASK	3 byte		Display a RS-232C command of currently set MASK
4	R SIDE MASK LEVEL	3 byte	Adjustment value	
5	G SIDE MASK LEVEL	3 byte	Adjustment value	
6	B SIDE MASK LEVEL	3 byte	Adjustment value	
7	MASK CONTROL	1 byte	0: OFF, 1: ON	
8	ORBITER MODE	1 byte	0: OFF, 1: ON	
9	INVERSE MODE	1 byte	0: OFF, 1: ON	
10	COLOR MODE	1 byte	1: COLOR MODE1 2: COLOR MODE2	
11	MIRROR MODE	1 byte	X: Right and left inverting Y: Top and bottom inverting Z: Top/bottom and right/left inverting N: OFF	
12	FAN CONTROL	1 byte	A: AUTO M: MAX	
13	MONITOR NAME	12 byte		
14	SLOT INPUT	1 byte	0: VIDEO (RGB) 1: COMPONENT1 2: COMPONENT2	(Note 1)
15	TEMPERATURE	3 byte	A/D input value	(Note 2)
16	HOUR METER	5 byte		Unit : H
17	KEY LOCK	1 byte	0: Lock release 1: Lock	

(Note 1) Dummy data (*) are output when a SLOT manufactured by Pioneer is connected.

8. GENERAL INFORMATION

8.1 DIAGNOSIS

8.1.1 CONFIGURATION OF THE PC BOARD



8.1.2 DIAGNOSIS FOR SHUTDOWN AND POWER-DOWN BY LED

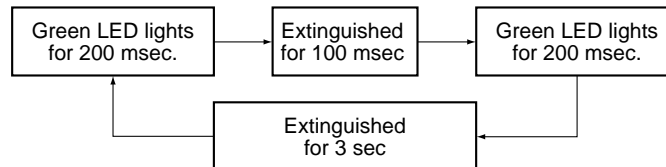
This unit has self-diagnosis functions against abnormalities in the internal circuits and other operational abnormalities, and if any abnormality is detected, the STANDBY/ON indicator (LED) blinks to alert you of it.

How the indicator blinks and possible failure points and power-down points are explained below:

● Shutdown

- Operations : When a microcomputer detected abnormality, it turns the power supply OFF.
- LED display : Blinking in green

Example: How the LED blinks when DIGITAL-IIC communications fail



Number of blinking	Reason
1	Panel Microcomputer failure
2	DIGITAL-IIC communication failure
3	Condensation
4	Temperature abnormality
5	FAN abnormality
6	Module microcomputer failure
7	Wide microcomputer failure
8	RGB-IIC communication failure
9	Audio failure

How to release shutdown

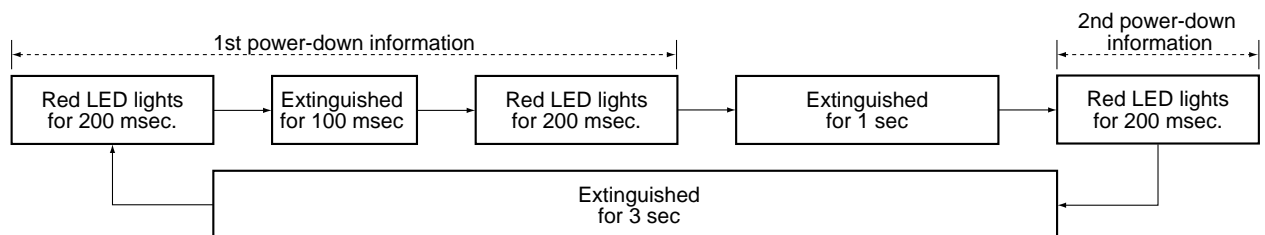
If the Power key on the remote control unit is pressed, the shutdown status is released, and the unit will be turned on. (It is not necessary to press the MAIN POWER button to turn off the unit.)

● Power-down

- Operations : In an emergency, the protection circuits are activated, and the power is turned off.
- LED display : Blinking in red

Note: If more than two protection circuits are activated at almost the same time, the LED indicates this by its blinking-pattern.

Example: How the LED blinks for the first power-down (Y-DC/DC CONVERTER) and the second power-down (Y DRIVE)



Number of blinks	Failure Point
1	Y-DRIVE
2	Y-DC/DC CONVERTER
3	X-DC/DC CONVERTER
4	X-DRIVE
5	Power supply
6	Address junction
7	Address resonance
8	DIGITAL-DC/DC CONVERTER

How to release power-down

Set the MAIN POWER button to OFF, and wait for about 30 seconds until the LED for PD (power-down) in the power-supply module is extinguished. Wait another 5 seconds, then recover the unit by setting the MAIN POWER button to ON.

Note: After power-down is released, the unit restarts and goes in to Standby mode.

F

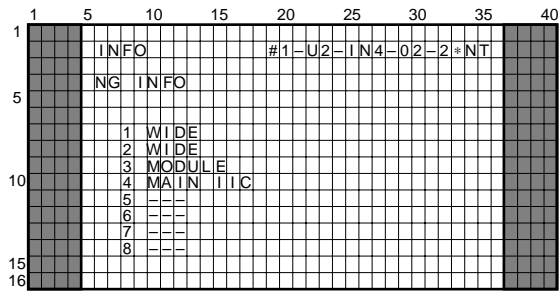


● Diagnosis Method in Shutdown

The data on the past eight shutdowns are stored in memory.

① OSD display of the Shutdown NG history

The shutdown NG history is displayed in "INFORMATION" of the Factory menu.



Display of the PD contents

Shutdown Point	OSD Display
Panel microcomputer communication failure	PANEL
Module IIC communication failure	MOD IIC
Condensation	DEW
Temperature abnormality	TEMP
FAN abnormality	FAN
Module microcomputer communication failure	MODULE
Wide microcomputer communication failure	WIDE
Main IIC communication failure	MAIN IIC
AUDIO failure	AUDIO

② Shutdown NG history by RS-232C command "GSD"

Order	Data Contents	Size
1	The latest "SD INFO"	1 byte
2	First latest "SD INFO"	1 byte
3	Second latest "SD INFO"	1 byte
4	Third latest "SD INFO"	1 byte
5	Fourth latest "SD INFO"	1 byte
6	Fifth latest "SD INFO"	1 byte
7	Sixth latest "SD INFO"	1 byte
8	Seventh latest "SD INFO"	1 byte

Shutdown Point	OSD Data
Panel microcomputer communication failure	1
Module IIC communication failure	2
Condensation	3
Temperature abnormality	4
FAN abnormality	5
Module microcomputer communication failure	6
Wide microcomputer communication failure	7
Main IIC communication failure	8
AUDIO failure	9

● Shutdown diagnosis

① Panel microcomputer failure

Condition : When the module microcomputer failed in communication with the panel microcomputer

Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

Possible causes

- Open/short-circuit of the communication lines in the assembly

② DIGITAL-IIC communication failure

Condition : When the module microcomputer failed in communication with an external EEPROM or EXPANDER

Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

Note: A DIGITAL-IIC communication failure may occur in Standby mode.

Possible causes

- Open / Short-circuit of communication line in the assemblies.
- Breaking of wire between the following point:
DIGITAL VIDEO Assy (D1) ↔ SW POWER SUPPLY Module (P2).

③ Condensation detection

Condition : When condensation has formed inside the unit

Results : As soon as condensation is detected, the unit will shut down.

Possible cause other than condensation

- Disconnection of CN2002 between the condensation sensor and the Y DRIVE Assy

④ Abnormally high temperature

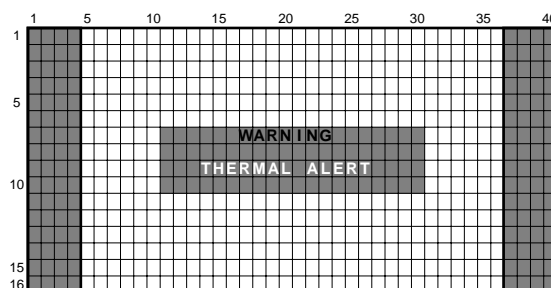
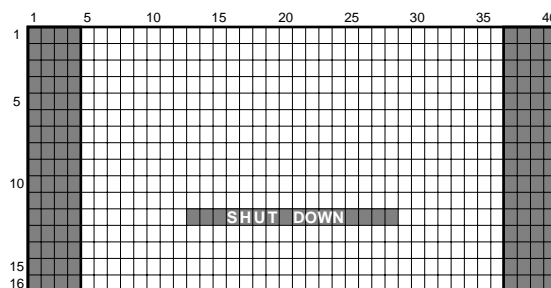
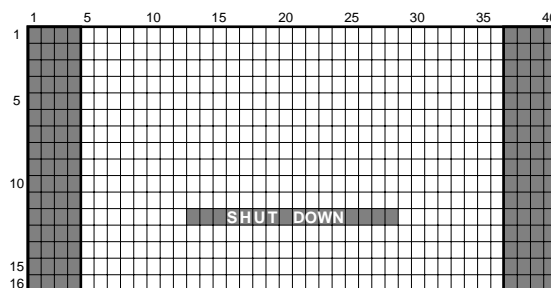
Condition : When the internal temperature of the unit becomes abnormally high

Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

Possible causes if this abnormality occurs in an environment in which the temperature is not so high

- Disconnection between the SP TERMINA (L) Assy (SPL1) and MX AUDIO Assy (A3).
- Disconnection between the MX AUDIO Assy (A5) and RGB Assy (R8).
- Disconnection between the DIGITAL VIDEO Assy (D18) and temperature sensor 1 (TE1).

Screen display



Reference

Shutdown temperature of each temperature sensor

TEMP2 data ≥ 150 ($\approx 80^{\circ}\text{C}$)

TEMP3 data ≥ 101 ($\approx 56^{\circ}\text{C}$)

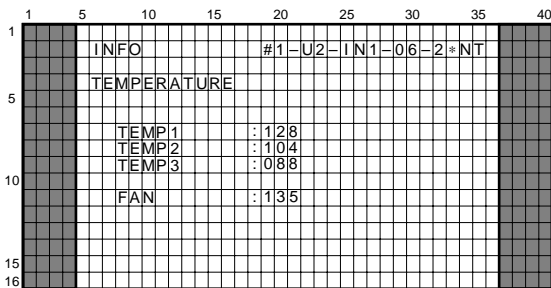
As for the TEMP 1 sensor, a shutdown occurs when a disconnection of connectors is detected, but does not occur because of temperature.

Temperature displayed in "INFORMATION" of the Factory menu

TEMP1 ($^{\circ}\text{C}$) \approx TEMP1 (data) -50

TEMP2 ($^{\circ}\text{C}$) \approx TEMP2 (data) /2+5

TEMP3 ($^{\circ}\text{C}$) \approx TEMP3 (data) /2+5



⑤ FAN failure

Condition : Fan failure

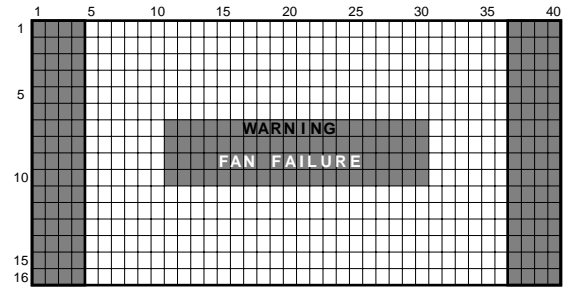
Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

Note: Fan failure is detected only in the following cases:

- When the FAN CONTROL is set to MAX
- When the FAN CONTROL is set to AUTO, and the temperature at the TEMP3 sensor is 30°C or higher (Fan failure is not detected while the fan is not activated even if connectors become disconnected.)

Possible causes

- Disconnection of a junction connector between FAN (A6) and the MX AUDIO Assy (A7).
- Disconnection of a connector between the MX AUDIO Assy (A5) and the RGB Assy (R8).
- Forced stop of the fan caused by a foreign object being caught in the fan.



⑥ Module microcomputer failure

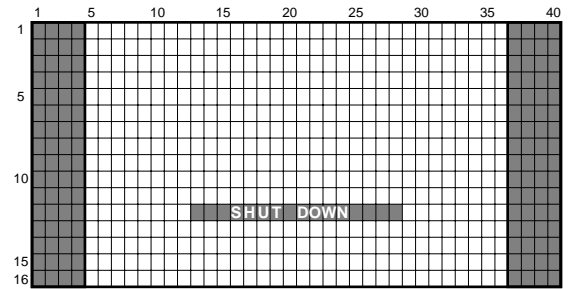
Condition : When the main microcomputer has failed in communication with the module microcomputer

Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

Note: A module microcomputer communication failure may occur in Standby mode.

Possible causes

- Open / Short-circuit of communication line in the Assy.
- Disconnection of a connector between the RGB Assy (R3) and the DIGITAL VIDEO Assy (D3).
- Writing defectiveness of module microcomputer (IC1207) software.



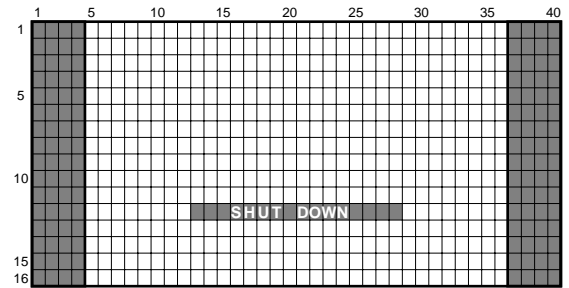
⑦ Wide microcomputer failure

Condition : When the main microcomputer failed in communication with the wide microcomputer

Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

Possible causes

- Open / Short-circuit of communication line in the Assy.
- Writing defectiveness of the wide-microcomputer (IC5601) software.
- Writing defectiveness of the external Flash ROM (IC5602) of the wide-microcomputer.



⑧ RGB-IIC communication failure

Condition : When the main microcomputer failed in IIC communication

Results : An OSD is displayed for 30 seconds after the failure is detected; then the power is shut down.

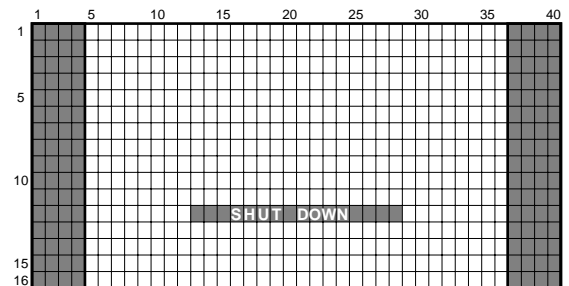
Note: An RGB-IIC communication failure may occur in Standby mode.

Possible causes

- Open / Short-circuit of communication line in the Assy.
- Incomplete insertion of a SLOT or a SLOT junction PC board

Note: In a case of incomplete insertion of a SLOT, the following symptoms may occur in addition to the above results.

- Audio signals to INPUT 3 and INPUT 4 are not output.
- Switching to INPUTs 3-5 (SLOT function) is impossible.
- Video signals to INPUT 1 and INPUT 2 are not displayed.



⑨ Audio failure

Condition : When a DC component is added on the speaker output line

Results : The power is shut down as soon as a failure is detected.

Possible causes

- Disconnection of a connector between the MX AUDIO Assy (A5) and the RGB Assy (R8).
- Short-circuiting between + and - of C8615 and C8622.

● Block Diagram of the Power Down Signal System ("STANDBY/ON" LED: Blinking red)

A

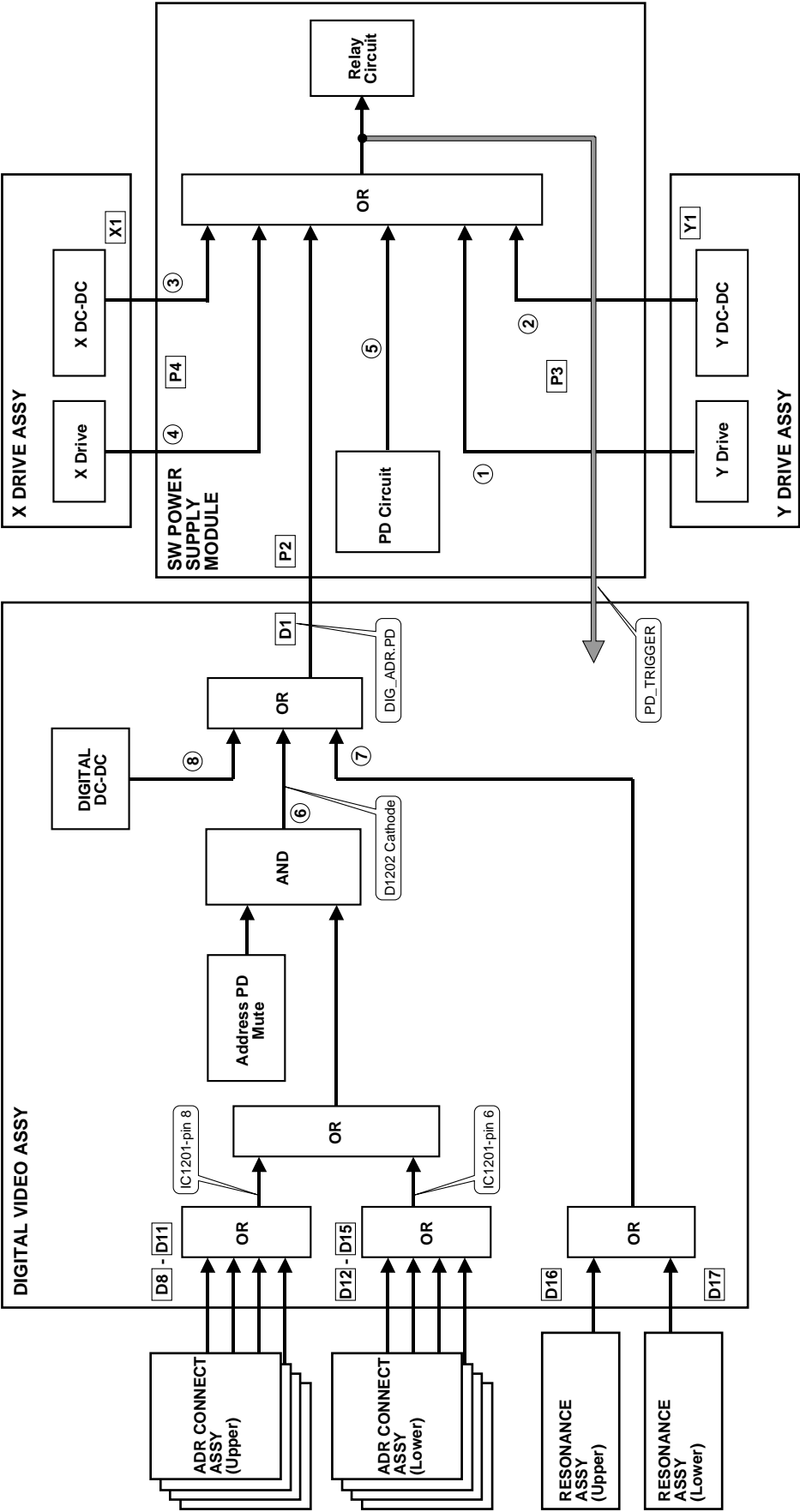
B

C

D

E

F



Note: The figures ① - ⑧ indicate the number of times the "STANDBY/ON" LED blinks when shutdown occurs in the corresponding route.

● Types and function of the various protection circuits (P.D. circuits)

Assy Name	OSD Display	Red "STANDBY/ ON" LED Number of Blinks	Type of P.D. Circuits	Function	Remarks
Y DRIVE Assy	Y-DRV	1	VCP OCP	P.D. by VCP overcurrent	
	Y-DDC	2	VOFS OVP	P.D. by VOFS overvoltage	
			VOFS UVP	P.D. by VOFS undervoltage (= overcurrent)	
			VH OVP	P.D. by VH overvoltage	
			VH UVP	P.D. by VH undervoltage (= overcurrent)	
			IC5V UVP	P.D. by IC5V undervoltage (= overcurrent)	
X DRIVE Assy	X-DDC	3	VRN OVP	P.D. by VRN overvoltage	
			VRN UVP	P.D. by VRN undervoltage (= overcurrent)	
	X-DRV	4	VCP OCP	P.D. by VCP overcurrent	
SW POWER SUPPLY Module	POWER	5	VSUS OVP	P.D. by VSUS overvoltage	
			VSUS UVP	P.D. by VSUS undervoltage (= overcurrent)	
			VADR OVP	P.D. by VADR overvoltage	
			VADR UVP	P.D. by VADR undervoltage (= overcurrent)	
			15V OVP	P.D. by 15V overvoltage	
			15V UVP	P.D. by 15V undervoltage (= overcurrent)	
			12V UVP	P.D. by 12V undervoltage (= overcurrent)	
			6.5V OVP	P.D. by 6.5V overvoltage	
			6.5V UVP	P.D. by 6.5V undervoltage (= overcurrent)	
			13.5V UVP	P.D. by 13.5V undervoltage (= overcurrent)	
			-9V UVP	P.D. by -9V undervoltage (= overcurrent)	
			+B OVP	P.D. by +B overvoltage	
			+B OCP	P.D. by +B overcurrent	
			AC200V P.D.	P.D. by AC200V applied	Note 1
				PFC module overheat protection	
				VSUS arc resistance overheat protection	
ADR CONNECT Assy	ADRES	6	ADR.PD	P.D. by disconnection of the connectors	
RESONANCE Assy	ADR-K	7	ADR.K.PD	P.D. by ICP open and TCP defective	
DIGITAL VIDEO Assy	DC-DC	8	5.0V OVP	P.D. by 5V overvoltage	
			5.0V UVP	P.D. by 5V undervoltage (= overcurrent)	
			3.3V OVP	P.D. by 3.3V overvoltage	
			3.3V UVP	P.D. by 3.3V undervoltage (= overcurrent)	
			2.5V OVP	P.D. by 2.5V overvoltage	
			2.5V UVP	P.D. by 2.5V undervoltage (= overcurrent)	

Reference

OVP : Over Voltage Protect
 UVP : Under Voltage Protect
 OCP : Over Current Protect
 PD : Power Down

Note 1: The AC200V P.D. circuit is not mounted in the PDP-503MXE model.

● Diagnosis Method in Power Down

The data (1st/2nd/time stamp) on the past eight power-downs are stored in memory.

① OSD display of the PD history

The PD history displayed in "INFORMATION" of the Factory menu.

1	5	10	15	20	25	30	35	40
1	INFO			#1-U2-IN4-02-2*NT				
5	PD INFO							
	1ST	2ND						
	1 X-DDC	---	---	05148H25M				
	2 ADR-K	X-DDC	---	02248H14M				
	3 Y-DRV	DC-DC	---	01358H36M				
	4 ADRES	---	---	00348H15M				
	5	---	---	00000H00M				
	6	---	---	00000H00M				
	7	---	---	00000H00M				
	8	---	---	00000H00M				

Display of PD point

Power-Down Point	OSD Display
Y-DRIVE	Y-DRV
Y-DC/DC CONVERTER	Y-DDC
X-DC/DC CONVERTER	X-DDC
X-DRIVE	X-DRV
Power supply	POWER
ADDRESS junction	ADRES
ADDRESS resonance	ADR-K
DC/DC CONVERTER (DIGITAL)	DC-DC

Time stamp display

[OOOOOH] : HOUR, [OOM] : MINUTE

Example:

Time stamp display is [65432H10M] → 65432 hours 10 minutes

② Retrieval of PD history by RS-232C command "GPD"

Data of PD point

Order	Data contents	Size
1	The latest "1st PD" point	1 byte
2	The latest "2nd PD" point	1 byte
3	The latest PD time stamp	7 byte
4	Second latest "1st PD" point	1 byte
5	Second latest "2nd PD" point	1 byte
6	Second latest PD time stamp	7 byte
7	Third latest "1st PD" point	1 byte
8	Third latest "2nd PD" point	1 byte
9	Third latest PD time stamp	7 byte
10	Fourth latest "1st PD" point	1 byte
11	Fourth latest "2nd PD" point	1 byte
12	Fourth latest PD time stamp	7 byte
13	Fifth latest "1st PD" point	1 byte
14	Fifth latest "2nd PD" point	1 byte
15	Fifth latest PD time stamp	7 byte
16	Sixth latest "1st PD" point	1 byte
17	Sixth latest "2nd PD" point	1 byte
18	Sixth latest PD time stamp	7 byte
19	Seventh latest "1st PD" point	1 byte
20	Seventh latest "2nd PD" point	1 byte
21	Seventh latest PD time stamp	7 byte
22	Eighth latest "1st PD" point	1 byte
23	Eighth latest "2nd PD" point	1 byte
24	Eighth latest PD time stamp	7 byte

Power-Down Point	"GPD" Data
Y-DRIVE	1
Y-DC/DC CONVERTER	2
X-DC/DC CONVERTER	3
X-DRIVE	4
Power supply	5
ADDRESS junction	6
ADDRESS resonance	7
DC/DC CONVERTER (DIGITAL)	8

Time stamp data

upper 5 byte: HOUR, lower 2 byte: MINUTE

Example:

Time stamp is [6543210] → 65432 hours 10 minutes

● Diagnosis of error points in the various protection-circuit (P.D. circuits) operations (Red "STANDBY/ON" LED blinks)

Number of Blinks	P.D. Point in Operation	Error Point	Possible Part in failure	Circuit State	P.D. Circuit in Operation	Diagnosis Condition
1	Y DRIVE	Y DRIVE Assy	IC2206, IC2214 (Pulse module), IC2203, IC2204, IC2212, IC2213, IC2216, IC2217, R2209	K2211 Lo	VCP OCP	
		VOFS D/D CONV. BLOCK (Y DRIVE Assy)	IC2702, IC2709, IC2715	K2712 Lo	VOFS OVP	
		VOFS D/D CONV. BLOCK (Y DRIVE Assy)	IC2701, IC2702, IC2709, IC2715			Drive section (control signals, output elements etc.) in normal operation
		VH D/D CONV. BLOCK (Y DRIVE Assy)	Q2211, Q2212, R2277, IC2208, IC2210	K2709 Lo	VOFS UVP	VOFS D/D CONV. BLOCK in normal operation
		VH D/D CONV. BLOCK (Y DRIVE Assy)	IC2712, IC2716	K2719 Lo	VH OVP	
2	Y DC DC	VH D/D CONV. BLOCK (Y DRIVE Assy)	IC2711, IC2712, IC2716			Drive section (control signals, output elements etc.) in normal operation
		SCAN (A), (B) Assy	SCAN IC	K2718 Lo	VH UVP	VH D/D CONV. BLOCK in normal operation
		IC5V D/D CONV. BLOCK (Y DRIVE Assy)	IC2704, IC2706, IC2717			SCAN Assy in normal operation
		SCAN (A), (B) Assy	SCAN IC	K2713 Lo	IC5V UVP	IC5V D/D CONV. BLOCK in normal operation
		IC5V D/D CONV. BLOCK (Y DRIVE Assy)	IC2704, IC2706, IC2717			SCAN Assy in normal operation
		VRN D/D CONV. BLOCK (X DRIVE Assy)	IC3702, IC3712	K3708 Lo	VRN OVP	
3	X DC DC	VRN D/D CONV. BLOCK (X DRIVE Assy)	IC3701, IC3702, IC3712			Drive section (control signals, output elements etc.) in normal operation
		X DRIVE Assy	Q3122	K3705 Lo	VRN UVP	VRN D/D CONV. BLOCK in normal operation
4	X DRIVE	X DRIVE Assy	IC3200, IC3201 (pulse module), IC3103, IC3104, IC3106, IC3107, IC3110, IC3113, R3109	K3103 Lo	VCP OCP	
		X DRIVE Assy	IC3200, IC3201 (Pulse module)			In a case where PD does not occur if the P4 connector is disconnected
		Y DRIVE Assy	IC2206, IC2214 (Pulse module)			In a case where PD does not occur if the P3 connector is disconnected
		MX AUDIO Assy	IC8601 (Audio IC)			In a case where PD does not occur if the P6 connector is disconnected
5	PS	ADDRESS CONNECT A - D Assy, RESONANCE Assy, D/D CONV. BLOCK (DIGITAL VIDEO Assy)				In a case where PD does not occur if Pin 5 of the P2 connector is disconnected
		SW POWER SUPPLY Module	SW POWER SUPPLY Module			In a case where the voltage is not output even if the P4, P3, P6 connectors and Pin 5 of the P2 connectors are disconnected
6	ADR	ADDRESS CONNECT A-D Assy	Disconnection of the D8 - D15 connectors		ADR. PD	
7	ADR K	RESONANCE Assy	TCP damage of IC6704 (ICP), disconnection of the D16 and D17 connectors, panel microcomputer is defective, external Flash ROM of the panel microcomputer is defective.		ADR. K. PD	
		D/D CONV. BLOCK (DIGITAL VIDEO Assy)	IC1901	K1901 Lo	5.0V OVP	
		D/D CONV. BLOCK (DIGITAL VIDEO Assy)	IC1901	K1902 Lo	5.0V UVP	
		D/D CONV. BLOCK (DIGITAL VIDEO Assy)	IC1901	K1903 Lo	3.3V OVP	
		D/D CONV. BLOCK (DIGITAL VIDEO Assy)	IC1901	K1904 Lo	3.3V UVP	
		D/D CONV. BLOCK (DIGITAL VIDEO Assy)	IC1901	K1905 Lo	2.5V OVP	
		D/D CONV. BLOCK (DIGITAL VIDEO Assy)	IC1901	K1906 Lo	2.5V UVP	

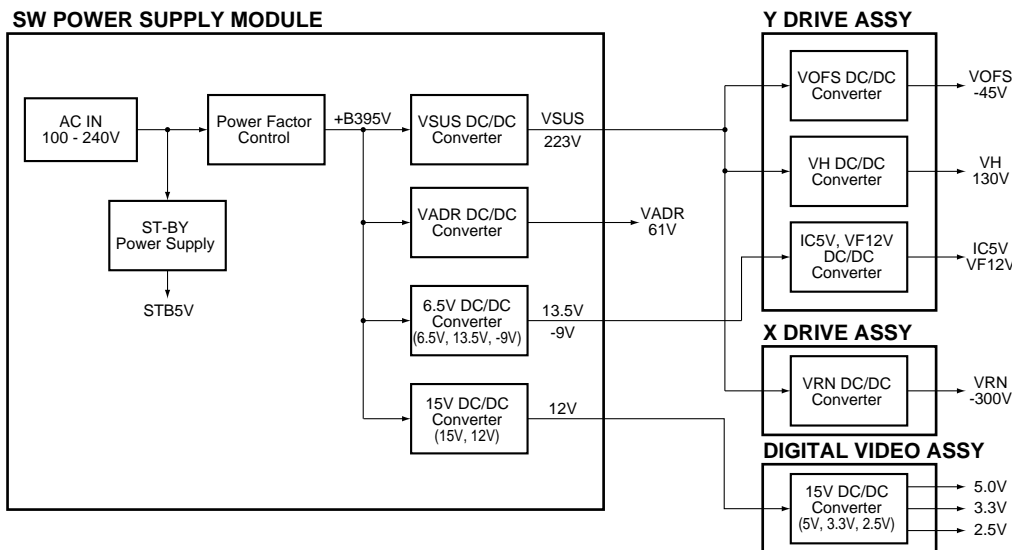
Note on PS PD

The Red "STANDBY/ON" LED blinks five times (power supply PD)

- 1 When the internal protection circuit of the SW POWER SUPPLY Module worked
- 2 When a microcomputer was not able to identify the PD point

Care must be taken because five blinks of the red LED does not always mean that the protection circuit of the SW POWER SUPPLY Module is activated.

● Block diagram of the Power supply section



● Supplementary information

1. Power on/off switch for the large-signal system (SW102)

Function: Only the power for the small-signal system (15V, 12V, 6.5V, 13.5V, and -9V) is on, and the power for the large-signal system (VSUS, VADR) is off.

Usage: Use when only an operational check for the small-signal system is required.

Supplementary information:

When this switch is to be used, the wires of pin 5 (DIG, ADR, and PD) of the P2 connector of the power-supply module should be disconnected to prevent the PD circuit from operating. To turn the power of the large-signal system off without using this switch, operation from an external PC through RS-232C commands "DRF" is basically required. In this case, the above procedure is not required, as the PD circuit is muted by software.

How to turn on the power with a command sent via RS-232C communication when the large signal system's power is off

- ① Check that the unit is in Standby mode.
- ② Transmit the RS-232C command "DRF."
- ③ Turn on the power using the remote control unit, side keys, or the command "PON."

Note: Once the power is turned off, the setting of the large signal system power returns to ON.

If you wish to turn on the power when the large signal system's power is off, transmit the DRF command each time.

2. 200V AC power-down switch (SW101)

Function: While 200V AC voltage is applied, operation of the PD circuit is turned on and off (ON when the switch is set to 100V AC, and OFF when the switch is set to 200V AC).

Setting: For the MXE model only, the switch is set to 200V, and for other models, it is set to 100V.

3. Temperature compensation of the VOFS voltage for the drive system

Function: Control the power supply voltage mentioned above according to temperature. (Temperature compensation works so that the voltage is lowered on the lower-temperature side, and is raised on the higher-temperature side.)

Purpose: To improve the yield by compensating the temperature characteristics of the panel.

Supplementary information:

For this model, temperature compensation is performed only for the VOFS voltage, and not for the VSUS voltage, and it is controlled by software.

4. When a fuse blows

- If a fuse blows, never turn the power on again only after replacing the fuse. (In most cases, the fuse itself did not have any problem. So as long as factors of overcurrent have not been removed, chances of destruction increase every time the power is turned on. In the worst case, about a dozen parts may be destroyed.)
- Generally, the whole power-supply-module assembly must be replaced.

5. Voltage adjustment of the panel drive

As this model employs the electronic VR system for the VSUS and VOFS voltages, and as the voltage-adjustment data are stored in the DIGITAL assembly, voltage adjustment of the panel drive is not necessary when the power-supply modules are changed. (For VADR, VH, and VRN, adjustments with semifixed VR controls are necessary.)

For this model, as the power-supply block has been developed and designed by an outside vendor, at the point you know which module is a cause of failure (through diagnosis described elsewhere in this manual), change the corresponding modules, and do not diagnose or repair the module. Similarly, the switches and the semifixed VRs inside the power-supply module must not be adjusted without a special reason.

8.1.3 AUTOMATIC BACKUP OF DIGITAL VIDEO ASSY DATA

■ Description

Data in the EEPROM (IC1204/2 kbit) mounted on the DIGITAL VIDEO Assy are automatically copied to an area (Area A in the figure below) of the EEPROM (IC5502/64 kbit) mounted on the RGB Assy as backup data in a case of assembly replacement. Therefore, the adjustment data for the unit (data in the EEPROM of the DIGITAL VIDEO Assy) can be maintained even after replacement of the DIGITAL VIDEO and/or RGB Assy.

Note: As for the COLOR and TINT items, even though they are adjustment data for the unit, as they are stored in Area C (see the figure below) they are not automatically backed up.

● Contents of EEPROM on the DIGITAL VIDEO Assy

- Adjustment value of PANEL White Balance
 - PANEL-R HIGH : Adjustment item for the unit
 - PANEL-G HIGH : Adjustment item for the unit
 - PANEL-B HIGH : Adjustment item for the unit
 - PANEL-R LOW : Adjustment item for the unit
 - PANEL-G LOW : Adjustment item for the unit
 - PANEL-B LOW : Adjustment item for the unit

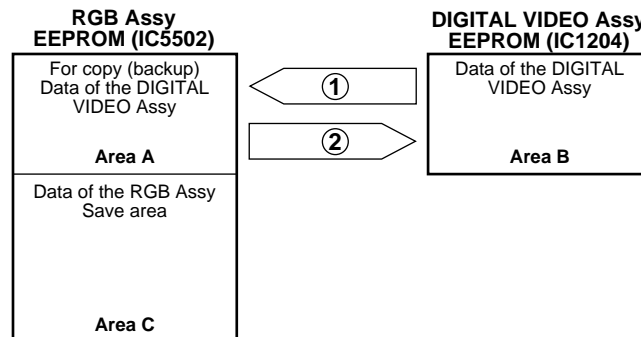
Data are automatically backed up.
- Adjustment value of ABL
 - ABL LEVEL : Adjustment item for the unit

Data are automatically backed up.
- Adjustment value of drive system
 - X-SUS-B : Adjustment item for the unit
 - X-SUS-G : Adjustment item for the unit
 - Y-SUS-B : Adjustment item for the unit
 - Y-SUS-G : Adjustment item for the unit
 - V-SUS : Adjustment item for the unit
 - V-OFFSET : Adjustment item for the unit

Data are automatically backed up.
- Pulse meter
- Hour meter
- Various setting data of FULL MASK

■ Flow of basic automatic backup

Data in Areas A and B are judged according to keyword as to whether they have already adjusted or not, then copying is automatically performed.



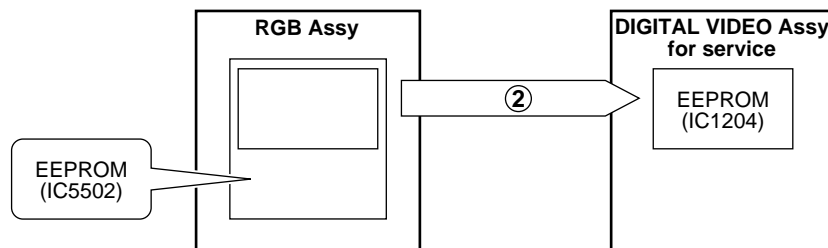
- ① Automatic copying is performed every time the Service Factory mode is entered (regardless of the keyword.)
- ② When the power is turned on, keyword checking is performed, then automatic copying is performed if the keyword for the DIGITAL VIDEO Assy (Area B) is "not adjusted," and that for the RGB Assy is "adjusted."

■ Actual automatic backup operation

1. When the DIGITAL VIDEO Assy is replaced (Using the service Assy)

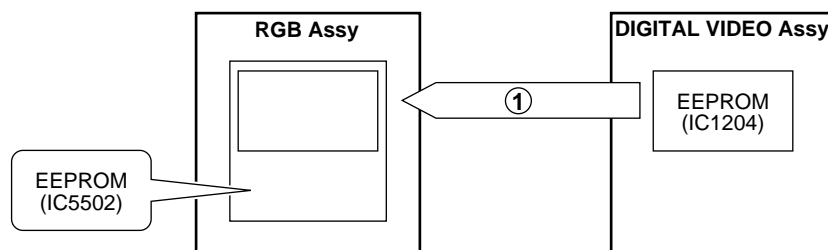
Keyword modification is not needed.

Replace the DIGITAL VIDEO Assy with that for service, then turn on the power. Thus, the backup data in the EEPROM of the RGB Assy are automatically copied to the EEPROM of the DIGITAL VIDEO Assy.



2. When the RGB Assy is replaced (whether replaced with the assembly for service or not does not matter)

Replace the RGB Assy, then enter the Service Factory mode. The backup data in the EEPROM of the DIGITAL VIDEO Assy are then automatically copied to the EEPROM of the RGB Assy.



3. When the DIGITAL VIDEO Assy is replaced (reuse of a repaired part) When installing the repaired DIGITAL VIDEO Assy in other unit

It is necessary to change the keyword of the DIGITAL VIDEO Assy to be reused to "not adjusted."

Before removing the DIGITAL VIDEO Assy to be reused, enter the Service Factory mode and execute SERVICE PARTS in the INITIALIZE item. (The unit must operate properly, and OSD display must be possible.) If SERVICE PARTS cannot be executed, readjustment is required.

Note: If a repaired DIGITAL VIDEO Assy is mounted in another unit (Unit 2) without this change of keyword, the automatic backup function will not work properly. Moreover, if Unit 2 is set to Service Factory mode in this condition, data in force before the repair of the DIGITAL VIDEO Assy will be copied to Area A of the RGB Assy of Unit 2, overwriting the data necessary for Unit 2. Once overwritten, the original data will not be restored.

4. When the DIGITAL VIDEO Assy is replaced (reuse of a repaired part) When installing the repaired DIGITAL VIDEO Assy in the original unit

It is not necessary to change the keyword.

After the repaired DIGITAL VIDEO Assy is mounted in the original unit, the unit can operate with its latest adjustment values.

After replacement, turn on the power. Then, the backup data in the EEPROM of the RGB Assy will automatically be copied to the EEPROM of the DIGITAL VIDEO Assy.

5. When replacing both the DIGITAL VIDEO Assy and the RGB Assy simultaneously

Automatic backup function does not work properly. Readjustment is necessary.

■ Others

1. As for the COLOR and TINT items, even though they are adjustment data for the unit, as they are stored in Area C, they are not automatically backed up. For these two items, the following applies:

- ① When only the DIGITAL VIDEO Assy is replaced
Readjustment is not required, as data are stored in the RGB Assy.
- ② When the RGB Assy is replaced
After repair, readjustment is required.

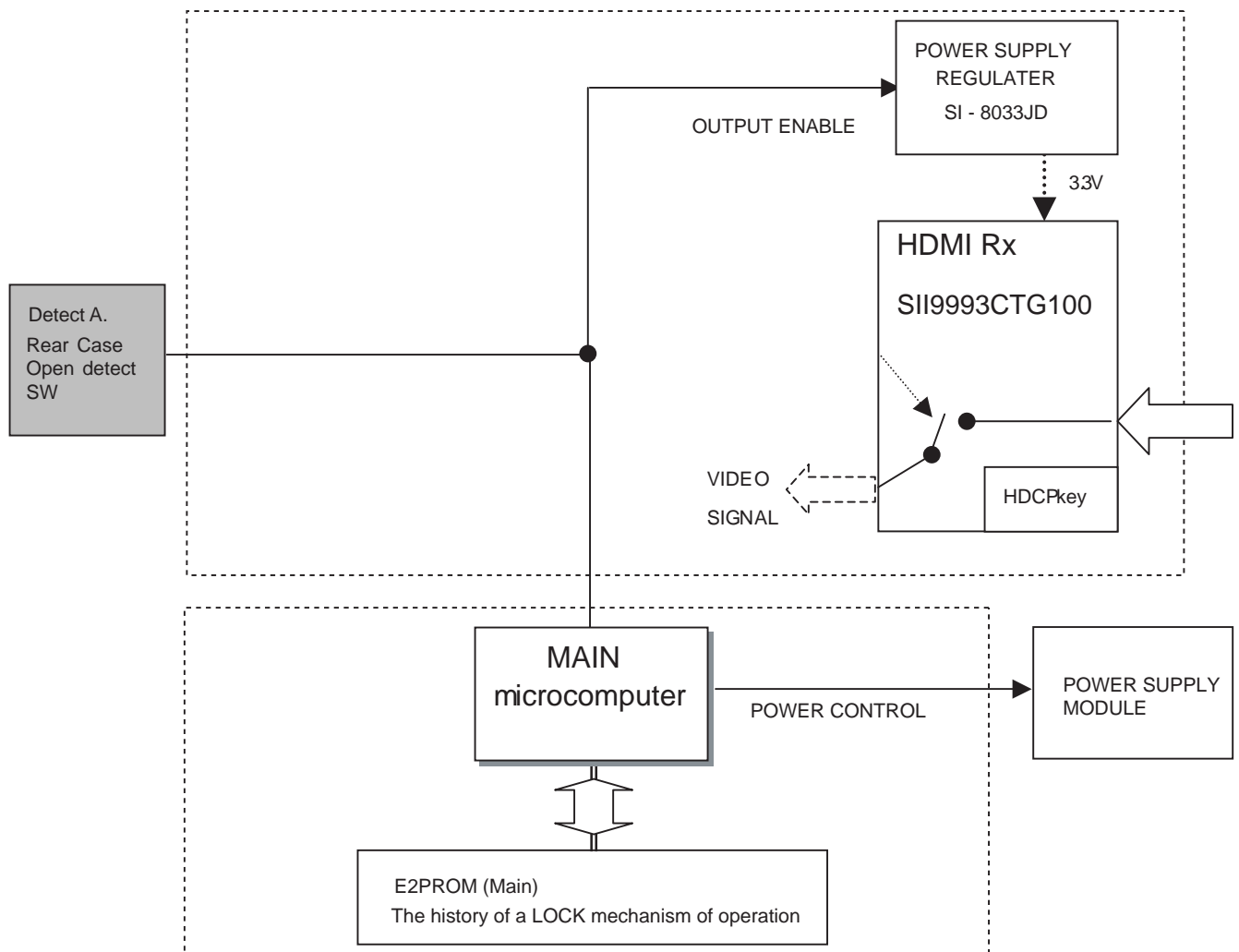
2. Except for data for the COLOR and TINT items, data in Area C in the EEPROM of the RGB Assy are assembly-adjustment data. Readjustment is not required when the RGB Assy is replaced with one for service.

8.1.4 PROTECTION OPERATION MODE

Protection mode

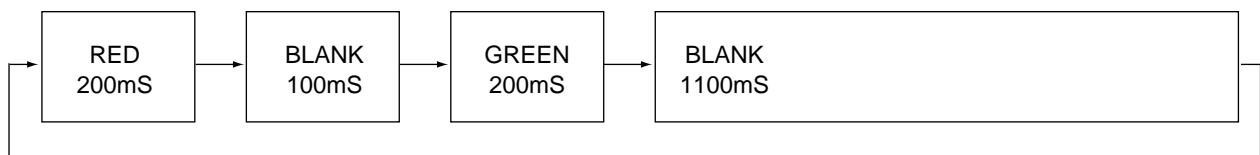
- This unit employs the HDCP (High-bandwidth Digital Content Protection System) for copyright protection.

The detection block of abnormalities



Protection mode

- If an abnormality is detected, the main microcomputer will store a record of it in the EEPROM.
- Then Protection mode is activated.
- During Protection mode, the LEDs will flash as shown below:



Note: Once Protection mode is activated, the POWER button of the PDP is disabled.

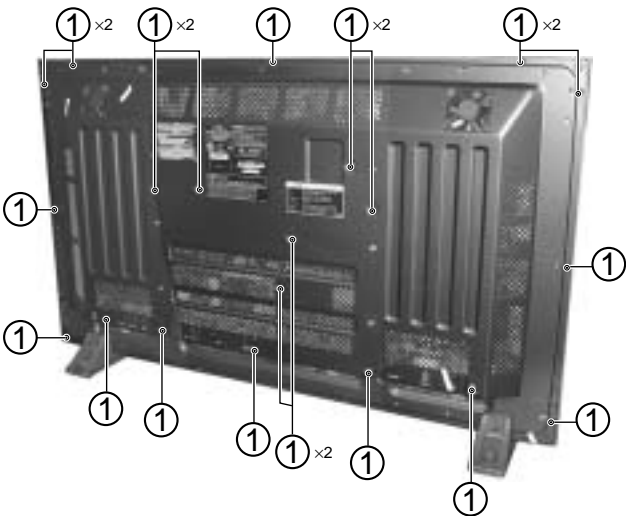
How to release Protection mode

- Press the **INPUT** key on the main unit and hold it pressed for at least 5 seconds.
- The LEDs, which flashed to indicate that Protection mode was activated, then light up and remain lit.
- Within 5 seconds after the LEDs light up, press the **DOWN** (**INPUT**), **UP** and **POWER** keys, in that order.
- If the procedure in Step 3 succeeds, the unit will return to its normal operating mode.
- If the procedure in Step 3 does not succeed, for example, if that series of key presses has not been completed within 5 seconds, Protection mode will remain in force.

8.1.5 DISASSEMBLY

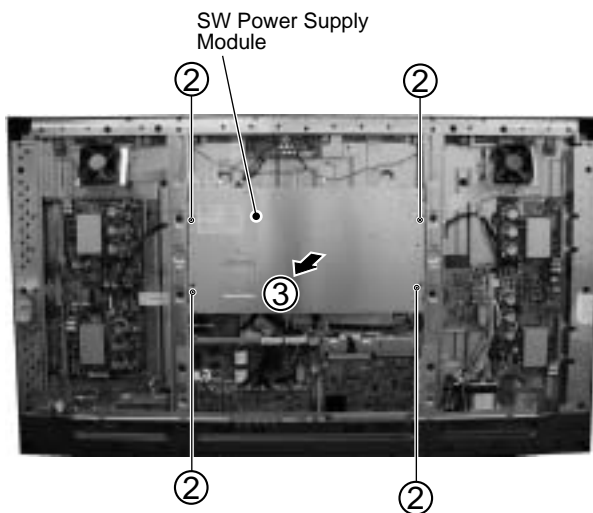
SW Power Supply Module

- ① Remove the Rear Case (50M). (Screws × 20)

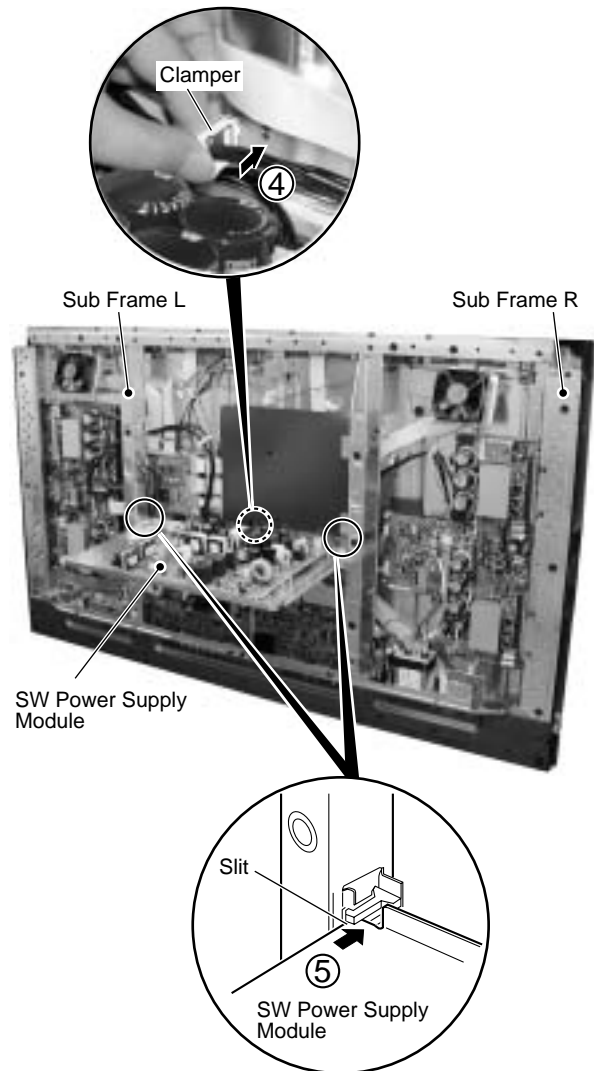


- ② Remove the four screws.

- ③ Remove the SW Power Supply Module.



- ④ Remove the Clamper and insert it to another place, as indicated in the photo below.



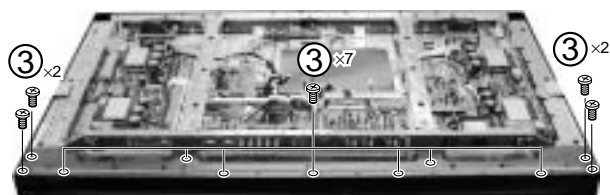
- ⑤ Insert the SW Power Supply Module into the slits of Sub Frame L and R.



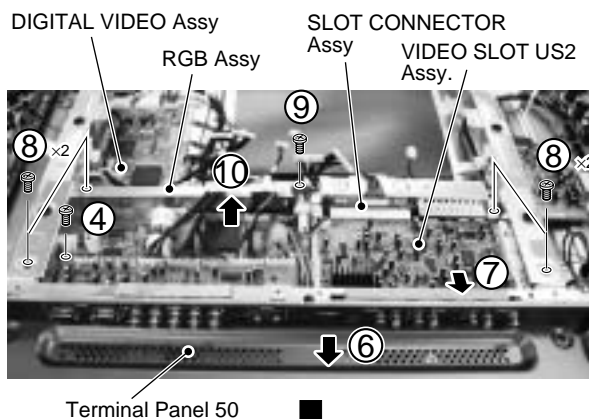
Diagnosis

DIGITAL VIDEO Assy

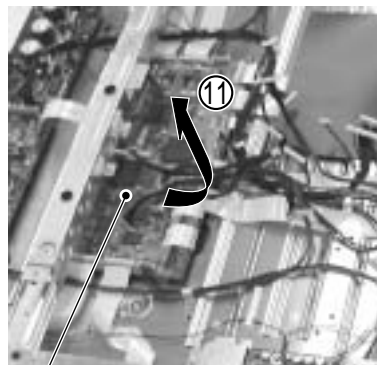
- ① Remove the Rear Case (50M). (Screws × 20)
- ② Remove the SW Power Supply Module.
(Connector, Screws × 4)
- ③ Remove the 11 screws.



- ④ Remove the one screw.
- ⑤ Remove the connectors.
- ⑥ Remove the Terminal Panel 50.
- ⑦ Remove the VIDEO SLOT US2 Assy.
- ⑧ Remove the four screw.
- ⑨ Remove the one screw to remove the switch.
- ⑩ Remove the connectors and binders and remove the RGB Base with PCB Assy.



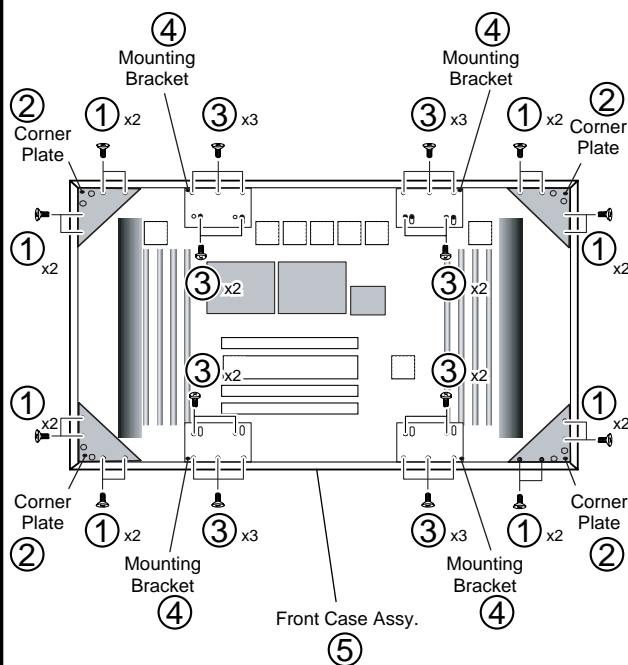
- ⑪ Remove the DIGITAL VIDEO Assy.
(Connector, Circuit Board Spacers × 6)



DIGITAL VIDEO Assy

FRONT CASE (1) Assy

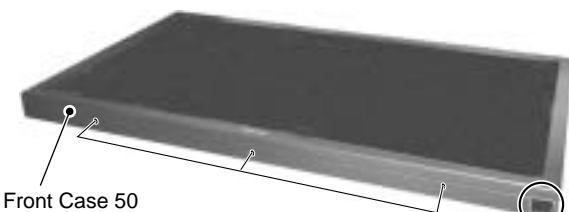
- ① Remove the 16 screws.
- ② Remove the Corner Plate.
- ③ Remove the 20 screws.
- ④ Remove the Mounting Bracket.



- ⑤ Remove the Front Case Assy.

FRONT CASE (2) Assy

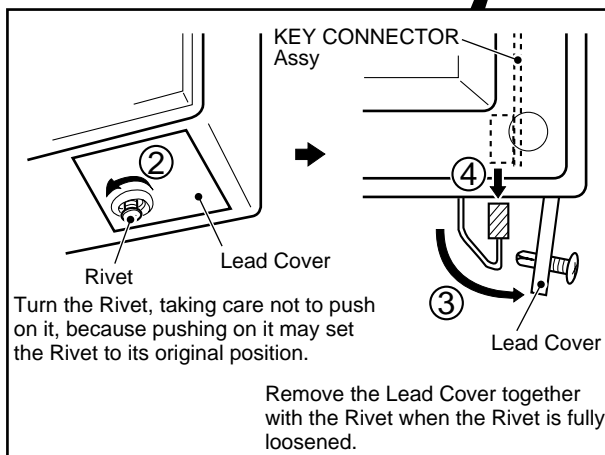
- ① Remove the 3 screws.



- ② Loosen the Rivet.

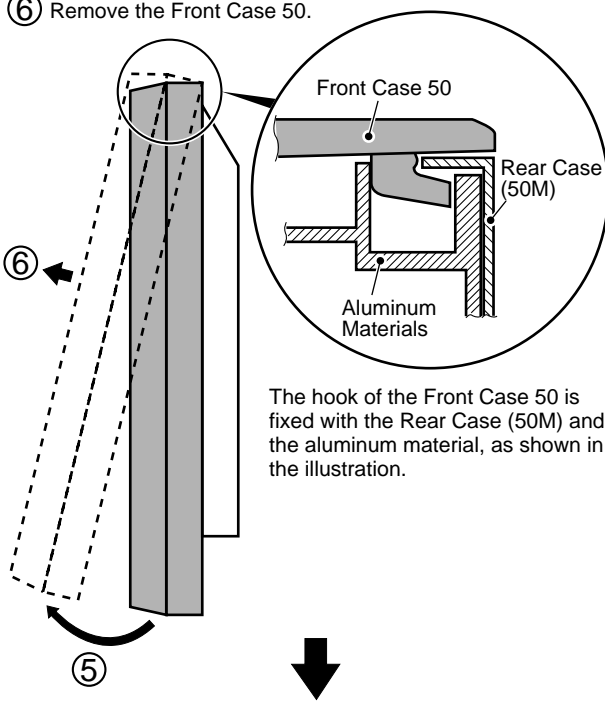
- ③ Remove the Lead Cover.

- ④ Pull out the Flexible Cable.



- ⑤ Detach the lower part of the Front Case 50 so that it can swing open hinged at the top.

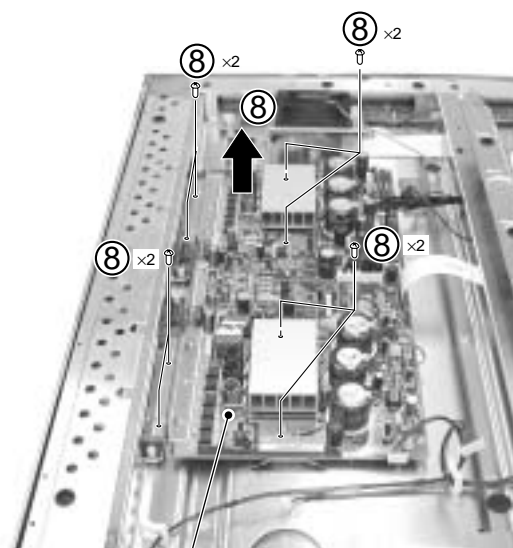
- ⑥ Remove the Front Case 50.



Y DRIVE Assy

- ① Remove the Rear Case (50M). (Screws × 20)

- ② Remove the Y DRIVE Assy. (Connectors, Screws × 8)



X DRIVE Assy

- ① Remove the Rear Case (50M). (Screws × 20)

- ② Remove the X DRIVE Assy. (Connectors, Screws × 8)

